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3DArtist

07

Practical inspiration for the 3D community

37 Pages of expert creative guides

Carrara Discover how to apply materials and lighting

CINEMA 4D Paint rusty textures on sci-fi ships

LightWave 3D How to make a desert environment

Poser/Photoshop Create Art Nouveau from 3D

▪ modo 401 tutorial

Car versus fighter plane

Master complex hard-surface modelling

INSIDE LUXOLOGY

The Autodesk rebels behind modo reveal all

▪ Step-by-step Maya tutorial

Build your own robot

Applying textures and composition

▪ Your questions answered

Specular lights

How to create blooms in a 3D render

Plus: Make_Studio brings 3D arch vis to the masses, and Bill Ledger: cartoon hero

Reviews: Poser 8, Director 11, The3dstudio.com and training DVDs

inside

imagine PUBLISHING

Blender video tuts 30 mins for beginners

City scene model Render the city streets

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INCREDIBLE MODELLING

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Artist info

Dean Etheridge

3DArtistonline.com
Username: Deane

Personal portfolio site
www.3dartistonline.com/user/deane

Country UK

Software used Poser, Photoshop

Cover artist

Great work here from Dean Etheridge, taking a figure in Poser and giving it a striking angle as well as a light and pleasant feeling throughout.

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Welcome

to the magazine and 116 pages of amazing 3D

Every issue you can count on...

1. **116 pages of creative inspiration**
2. Behind-the-scenes guides to images and artwork
3. **A CD packed full of creative goodness**
4. Interviews with inspirational artists
5. **Tips for studying 3D or getting work in the industry**
6. The chance to see your art in the mag!

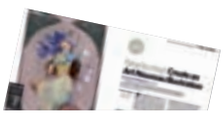
Well, summer is winding down, SIGGRAPH is over for another year and the global economy is picking up. It's a time of change that is reflected in the pages of **3D Artist** as well. This issue we have more varied tutorials than ever before, covering LightWave 3D, modo 401, Poser and Photoshop, Carrara, CINEMA 4D and, of course, Maya. Don't worry 3ds Max users, though, there's still Q&A features and forthcoming tutorials for you as well. Blender gets in on the act with four video tutorials on the disc and there's a tutorial next issue as well. Enjoy the issue, we'll have more 3D goodness for you next month.

Duncan Evans,
Editor

This issue's team of expert artists...

Mark Bremmer

Where have we sent our fearless reporter this month? If I say Luxology and you say modo, then we'll both be right



Louise Choquette

If you've ever wondered how to take a 3D render and make it into an art style from the turn of the century, look here

Dieter Meyer

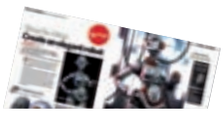
It could almost be a scene from an Indiana Jones film. Feel the dust in this friendly duel between car and plane

Lance Hitchings

Lance runs a design studio stateside, and is also the chap manning the Q&A helpdesk for your 3D problems

Eliane Camargo

In the future everyone will wear a shiny helmet and use 200W bulbs. Why wait, I say, and Eliane obviously agrees



Lee Davies

Lee is employed as a character modeller for a Dublin-based company. This issue he finishes off the robot girl tutorial

April Madden

April is deputy editor on **Corel Painter Magazine** and a graphic artist. We make her review all kinds of books

Rosie Tanner

Fearless Rosie tracks down another uni course and pours the cold light of investigative journalism over them

Neil MacCormack

Here's how to come up with a grubby desert environment, ideal for your sci-fi needs, courtesy of CINEMA 4D

Sarah Slee

Your first port of call for all things community related. If you have 3D art to show or just want some soup, call Sarah

John Hayes

John works as a character artist for Sega. He designs models over breakfast and is our go-to Q&A man

Christian Darkin

Down at the reviewing coalface, poor Christian is toiling away on meagre rations and doesn't have a canary

Sign up, share your art and chat to other artists at www.3dartistonline.com

3D Artist

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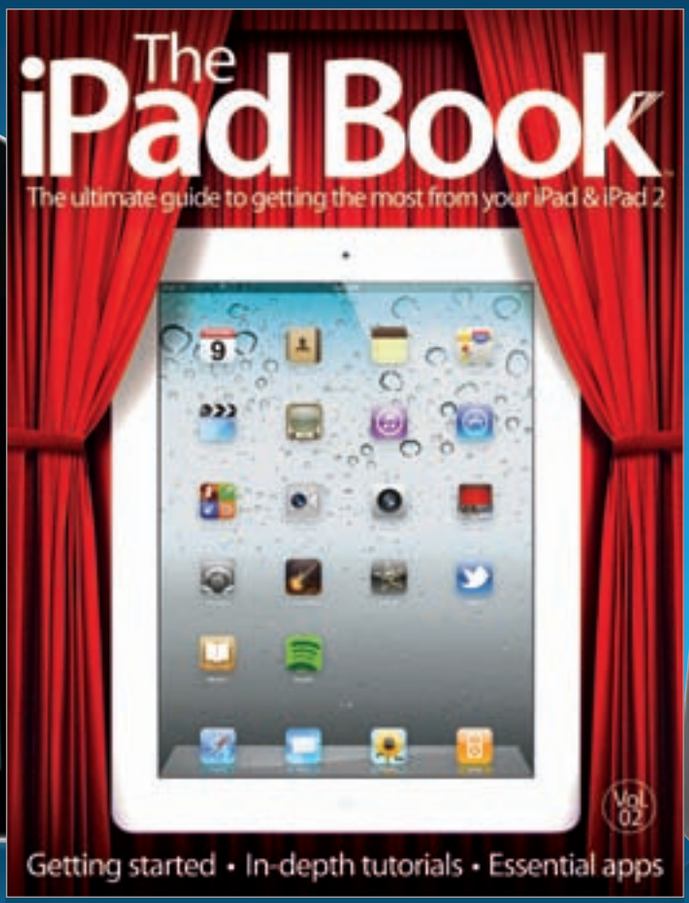
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Discover how these images were created...

Model a classic car racing a fighter plane

“A fictional race between the Macchi C.205 Veltro and the Alfa Romeo 12C36”

Seven-page step-by-step walkthrough guide

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“A conceptual design for a desert-based space port environment sometime in the future”

Neil MacCormack on the concept for *Desert Environment*. **Page 72**

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Seven-page guide to hard-surface modelling with cars and planes

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Louise Choquette shows how to take a 3D render and turn it into Art Nouveau

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How a superbly detailed garage scene was created is revealed

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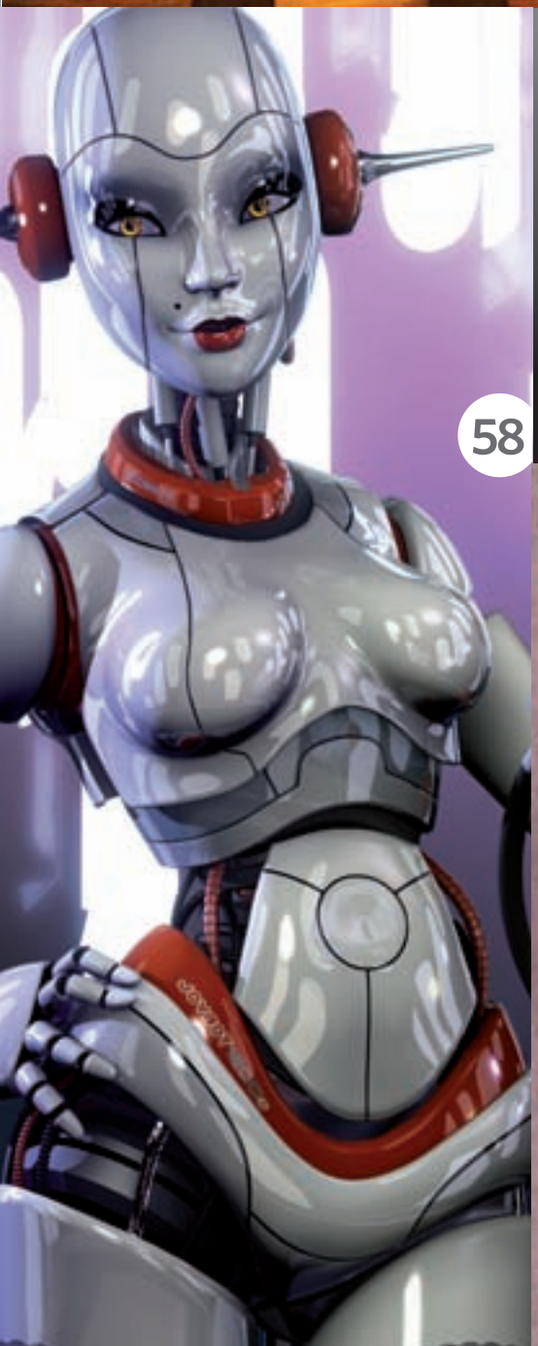
In the future we will all be wearing shiny helmets and ordering robots to do our bidding

72 Step by step: *Desert environment*
One for you CINEMA 4D fans – how to make a grungy sci-fi space port environment



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Downtown city model: Free urban scene

It's a large complex scene complete with traffic signs and bits of garbage

Plus video, furniture, seamless heads and a WWI naval pack

Turn to page 112 for the complete disc contents

On the Disc

Free: Blender video
30 mins! Turn to page 112 for details

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Continued overleaf

There's even more inside...

Turn the page to discover the interviews, reviews, industry advice and more that we've packed into this issue...

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When a bunch of guys left NewTek to form their own company, they came up with modo

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You don't want to miss an issue and it will save you lots of cash

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See your artwork here...
Create a gallery today at
3DArtist online.com
Share your art, comment on other artists' images

"We have expanded into many aspects of the creative industry, there are video virals in the pipeline and we are pushing..."

Chris Bainbridge on countering the recession. **Page 28**

workspace 3D

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Four-page SIGGRAPH special with all the big announcements

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What you need to know to get a job as a cartoon artist using CGI

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We check out the Animation course plus have a look at the student portfolios

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It's a jungle out there. Swing through it

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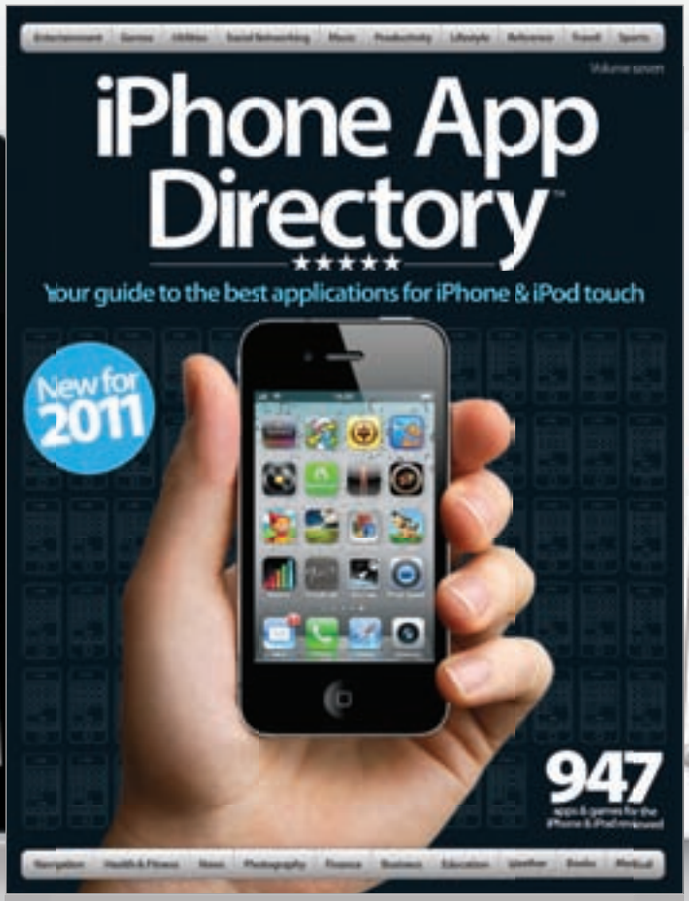

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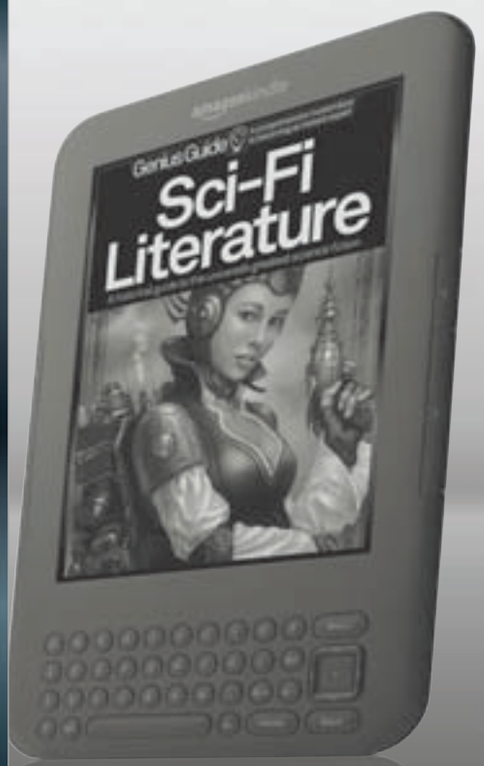

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WELCOME TO THE GALLERY

Nine pages of the greatest artwork from the 3D community

Images we love!

"This image was created by designing curves that follow its form. I extruded these to turn them into NURBS tubes and weaved them into the sculpture"

Meats Meier *Gas Mask*, 2001

Meats Meier

Personal portfolio site www.3dartspace.com
Country USA
Software used Maya, Photoshop

Featured artists

Meats Meier

Great fun was had in creating this, and it's great fun to look at over and over again

Luciano Neves

Stunning night-time scene of a famous architectural London landmark

Ke Weilin

A well-rendered sexy female guard who looks like she knows her way round a gun...

Eduardo Martin

The lighting here is superb, adding to the ambience surrounding this surly cowboy

Toni Bratinevic

Such a good composition in this fantasy image guides the viewer's eye

Liam Kemp

Ever wondered what the perfect girl would look like? You can find out here!

Brian Wright

A lot to look at in this spectacular interior with a neoclassical atmosphere

Get your artwork featured in these pages

Simply send it to the **3D Artist** Gallery. Here's how...

Enter online

3DArtistonline.com

Hang your art in our online gallery and get selected for the magazine

1. Register with us

Check out the website below and click on Register. Choose a username and password and you're ready to go.

www.3dartistonline.com

2. Upload your images

Once registered, you can upload images to your gallery – there's no limits on numbers but check the size criteria.

3. Tell us about them!

Have an image you feel passionate about? Drop editorial an email at **duncan.evans@imagine-publishing.co.uk**

Email or post

You'll be missing out on a thriving 3D community, but if you'd rather submit your work by email or post, here's how. Make sure your image is at least 3,000 pixels on the longest side, save it as a maximum quality JPEG or zip it up as a TIFF and email it to the address below. Please include your contact details! If you've created a Pixar-beating animation and want to see that featured on the cover CD, then save it onto a CD and post it to us. You can also send your images on CD. The addresses are:

duncan.evans@imagine-publishing.co.uk

The Gallery, 3D Artist, Imagine Publishing, Richmond House, 33 Richmond Hill, Bournemouth, Dorset, BH2 6EZ

Comment on more great 3D art...

Head straight over to **www.3dartistonline.com**, register and you can leave comments for other artists. Some of the people featured here already have their galleries, so get online and join our club!

Create your gallery today: www.3dartistonline.com

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Artist info

Luciano Neves

Personal portfolio site
http://lucianoneves.cgsociety.org/

Country Brazil

Software used 3ds Max

Work in progress...

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“The inspiration always comes from the love I feel for my work. I like to practise new techniques and will always be studying to keep my skills up to date. Photorealism and old historical buildings are often my focus in personal works. I decided to create a 3D Tower Bridge because it is an amazing historical bridge and has many details. As the cradle of civilisation, Europe offers many inspirations for my personal work”

Luciano Neves *Tower Bridge*, 2006

The team Loves

“Lots of fantastic detail and supremely well integrated so that it looks a natural fit with the environment”

Lora Group Art Editor

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The team loves

There's a playful look in this character's eyes, which suggests that you wouldn't want to cross her. Guns and a skimpy outfit – potentially a lethal combination!

Ross Head of Design

> I wanted to make this character kind of sexy but also a little untameable, so I chose a sexy pose for her and made the expression in her eyes sexy and untameable. In order to make her more powerful, I also made a gun for her. The name S-Force means 'sexy force'!
>
> **Ke Weilin** *S-Force*, 2009

Artist info

Ke Weilin

Personal portfolio site http://realtuke.cgsociety.org/gallery/

Country China

Software used 3ds Max, ZBrush, Photoshop, BodyPaint, V-Ray, mental ray

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The team Loves

"The lighting is spot-on in this wonderfully modelled image, while Clint Eastwood couldn't have done a better stare if he tried!"

Jo Editor in Chief

Artist info

Eduardo Martin

Personal portfolio site www.theposmaker.com

Country Spain

Software used Maya, mental ray, Photoshop, Nuke

Work in progress...

"The cowboy was created as the main character for a short film that I was preparing. The idea behind the image was to put the character in a suitable set and play around with the mood and the look of the short"

Eduardo Martin *Vaquero Saloon*, 2007

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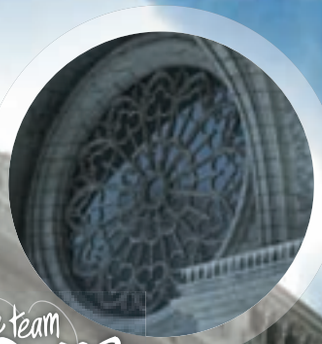

The team Loves

"Lots of imagination has gone into this image with quite a philosophical concept. Nicely put together with great scale, leading the eye up and into the clouds"

Lora Group Art Editor

Toni Bratinevic

Personal portfolio site www.interstation3d.com

Country Croatia

Software used Maya, mental ray, Digital Fusion, Photoshop

"The idea for this image was to create a world above ours, something like heaven and hell but more like our reality. This is the place where energy used to sustain the world is drawn from all inhabited planets"

Toni Bratinevic *The world above*, 2006

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"The image was commissioned by *Maxim* from a readers' poll to show what the perfect female would look like. Many categories, like hairstyle, eye colour, body shape, etc, were chosen by the reader and the final image is based upon the most popular results of this poll"

Liam Kemp *Cyberbabe*, 2008

The team Loves

"Well, you can see where the readers of *Maxim* were going with this. It's almost like a still from an Eric Prydz music video. Nice skin textures and well modelled"

Duncan Editor

Artist info

Liam Kemp

Personal portfolio site
www.liamkemp.com

Country UK

Software used
3ds Max and Brazil

Work in progress...

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The team Loves

"The lighting in this lovely interior has to be praised, as it lends itself to the scene perfectly, creating a wonderful atmosphere"

Duncan Editor

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> I've always been a fan of artistic images that tell a story, which have atmosphere and hold the viewer's attention. I had been wanting to create an image of a scene with an almost haunted neoclassical feel. To achieve this, I used Carrara 7 Pro's ambient lighting and fog systems. This is the result. Thanks go to Redhouse Studios for providing this fabulous set of objects

Brian Wright *Grandeur*, 2009

Artist info

Brian Wright

Personal portfolio site www.renderosity.com/mod/gallery/browse.php?user_id=58754

Country USA

Software used Carrara 7 Pro

Work in progress...

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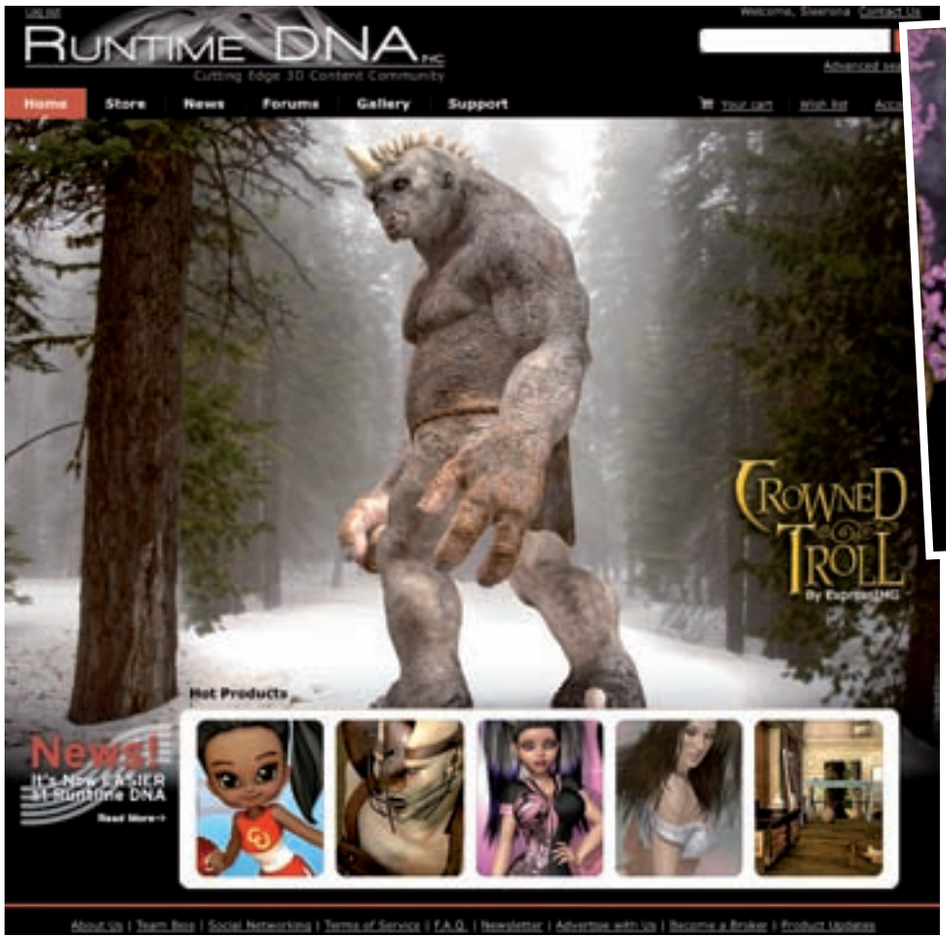

Here's one of Dorkati's items up for sale on Runtime DNA

Extra earnings

A 3D community that offers cashback

Most people could always do with a bit of extra money, and that's where Runtime DNA comes in. The 3D content community site was set up by Colm Jackson and Syyd Raven back in 2001. It has around 65,000 members and features a thriving marketplace; however, what's interesting about it is that its wares are all made up of its members' creations.

According to Jackson, the site "has been highly successful since its opening, positioning itself among the top sites in the Poser content-creation marketplace." Member and vendor Luke Ahearn (aka Lukea) heartily recommends the service to other artists, too: "I sell 3D assets, and for the few short months I've been doing this, I've been ranked pretty high in sales on a few sites." This is quite common for members of Runtime DNA, as Jackson explains: "Many who broker with us and at other sites like ours earn highly lucrative salaries and consider themselves full-time professionals."

Dorkati has been a vendor for a year and he tells us other opportunities arise from the service, too: "One of my images was published in the efrontier Poser tutorial DVD." Dorkati went on to say: "RDNA is full of creative artists and content creators. This site is not just a marketplace, but a community with helpful and skilled members. You will find some inspiring images in the gallery, plus some valuable, high-quality 3D content in the store." Sign up and see for yourself at www.runtimedna.com.

> "We offer a competitive brokerage... and we foster talent at every level in a private and richly rewarding atmosphere"
>
> **Colm Jackson** co-founder of Runtime DNA

3DArtist online.com

Do you sell your models? How successful has it been for you? Discuss this and more at **www.3dartistonline.com/forum**

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3D web update

New sites and changes to your favourites – it's all here!

Bring your creations to life

Shapeways is a service that'll make your creations. Simply upload a 3D model that you've created to its site and then pay for it to be made into a real object. The software on the site supports programs such as 3ds Max, Blender and Maya.

Costs vary depending on the size and design of your object, but once you upload your model the price will be calculated and shipping is included in the figure.

This is a great idea for a service. It can help start off your own business selling your wares, or simply provide you or a loved one with a gift that you've created. Trot on over to **www.shapeways.com** to have a look.

Many happy returns

Envato, the company responsible for the awesome Tuts+ network, has celebrated its third birthday. One of its sites we particularly like is CGtuts+. It contains a great selection of articles, tutorials and freebies for artists.

The articles featuring tutorials roundups are also useful, as it means you've got a 'best of' instantly – saving you precious time. Some of our favourite tutorials include how to construct a detailed hand grenade, advanced lighting techniques in Maya and how to create imprints.

If you want special access to source files, plus other tuts that aren't widely available, then you can always sign up for a Plus membership for $9 a month. Visit **http://cg.tutsplus.com/**.

The attention to detail in this piece is absolutely superb

Masterpiece Chimp

Freelance digital artist Jacques Defontaine talks monkey business

Jacques Defontaine www.tkio.net

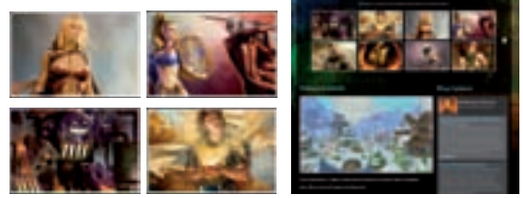
Jacques Defontaine's *Chimp* image really is excellent. This photorealistic primate took him just two weeks to produce, using Mudbox, modo and Digital Fusion. "I'm inspired by all kinds of organic creatures, but I have a preference for monkeys," he tells us. "I enjoy realism in rendering because I think it's the best way to improve your skills in a particular area – especially observation." For more of Defontaine's work, pay a visit to his website at www.tkio.net.

Defontaine sticks with his photorealistic approach, and it certainly pays off here

Google 3D Warehouse app

View 3D models on your iPhone, courtesy of NaviCAD

NaviCAD is an app from Dan Halabe and Chuck Han that enables you to view 3D models from the Google 3D Warehouse on your iPhone or iPod Touch. Priced at just 59p, this winner of the 2009 SIGGRAPH Collada contest will let you browse through thousands of user-created models – you can zoom in, rotate, change the background colour... the choice is yours. The application even senses when you tilt your phone up and down, moving the image accordingly. It's incredible, really. NaviCAD is available to buy from the iTunes Store. To find out more, simply visit www.navicad.com.



New art portal

Sony Online Entertainment launches a new website

SOE's art portal is now live. The site features art from the company's games, including titles such as *EverQuest I* and *II*, *The Agency* and *Free Realms*. In addition to some excellent, inspirational images in its galleries, there are articles on and interviews with artists who have worked on Sony's games. Not forgetting, of course, blog posts and Twitter feeds from various members of the teams as well.

An added bonus of the site is the Jobs section, where users can view the very latest employment posts at Sony Online Entertainment. Have a look for yourself at **www.soe.com/artists**.

Website of the month: CGenie www.cgenie.com

No doubt the first thing you'll notice about CGenie is its clean, structured homepage. Don't let the minimalistic approach fool you, though; there's plenty on offer here. From inspiration to information on events and competitions, CGenie really is built with the artist in mind.

You can find news on the industry and the latest technology, and even get a bit of learning in, too – all at just a click of a button. Granted, the forum could be busier, yet the comments that are on there are friendly and offer positive feedback. Take a gander and see what you think.

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Free 3D Resources

Textures and models

From bubble wrap to babies... here are some freebies waiting for you on the web

Texture Warehouse

A warehouse of free textures, you say?
Web: www.texturewarehouse.com

As the name suggests, there are certainly plenty of textures to choose from at Texture Warehouse. There are loads of categories, so you'll no doubt be able to find just what you're looking for. Need some industrial bubble wrap? Check. Giant plane engine? Check. Beehive? You got it.

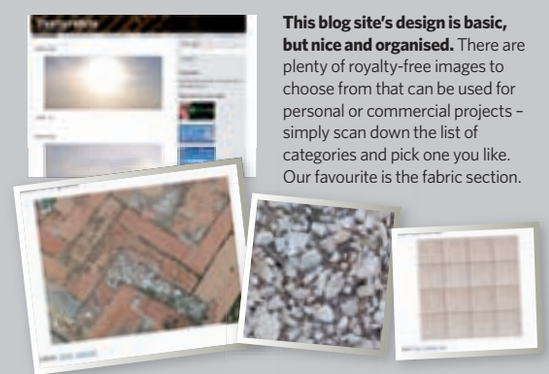
3D Nucleus

Get your fix of free 3D models from here
Web: www.3dnucleus.com

The 3D models at 3D Nucleus are certainly varied – ranging from diamonds to equipment for blood pressure. Although there are not that many to choose from, you can also buy loads of different ones or submit your own to sell or give away for free. What are you waiting for? Get involved!

Texturebits

Avoid the hassle of making textures; visit Texturebits instead
Web: http://texturebits.blogspot.com/



This blog site's design is basic, but nice and organised. There are plenty of royalty-free images to choose from that can be used for personal or commercial projects – simply scan down the list of categories and pick one you like. Our favourite is the fabric section.

V-Ray of light

V-Ray for Maya has now been released by the Chaos Group team

SIGGRAPH 2009 was host to many announcements, including the news that V-Ray for Maya has been officially released. This means that life for digital artists has been made a lot easier. You'll now be able to render larger, more intricate scenes faster and easier than before.

Features include 3D motion blur, a sun and sky procedural lighting system and even environment fog. According to the Chaos Group, it'll run on versions 2008, 2009 and 2010 of Maya. V-Ray for Maya is priced at $999 or €719, and you can find out more information from www.chaosgroup.com.

At €719, it isn't cheap, but V-Ray for Maya could certainly speed up your workflow

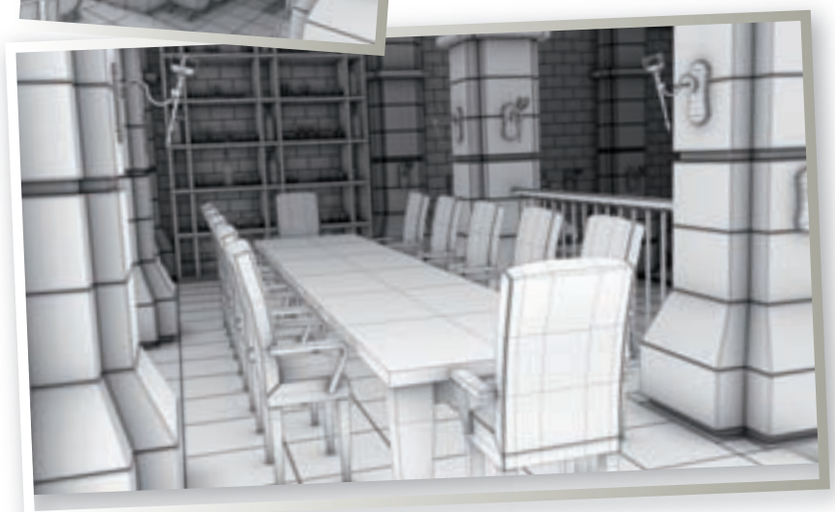
Work in progress: Wine Cellar

Adam Vorous is a 3D environment and props modeller based in California. He shows us his *Wine Cellar* that he's currently working on

Adam Vorous www.adamvorous.com

So far, Adam Vorous has spent a little over two weeks converting this cellar; it's an interesting choice of subject, but what inspired him to take on this project? "I wanted to try something I wouldn't normally model to diversify... I want to show prospective employers I can do other things."

To get to this point Vorous has used Maya, with a view to do his texturing in Photoshop. Although, his computer is now struggling: "My scene is becoming 'too heavy'... I'll have to start limiting my modelling to avoid crashing my computer." See www.adamvorous.com for more.



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Artist spotlight

Orc Maori

This senior character artist at Ubisoft Montreal talks us through one of his personal projects

Nicolas Collings www.nicolascollings.com

Many wonderful things can inspire a project, and for Nicolas Collings it's monster movies. In addition to the celluloid creatures, Collings also cites designers, sculptors, digital modellers and even make-up artists as his inspiration.

"I like to design creatures. There's no particular reason for this except that it's something I enjoy," he explains. His image *Orc Maori* took him around three to four days to create, using ZBrush, Photoshop, 3ds Max and Maya. He says: "I try to give a more illustrative look to my images because I see my work more as an initial concept design step rather than a production-ready CG model."

To check out his impressive portfolio, visit www.nicolascollings.com.

Tools of the trade

PANASONIC LUMIX DMC-FZ38

Capture your source material in style

The more compact versions of Panasonic's popular LUMIX range are the ideal point-and-click cameras when you're out and about, and now the company is hoping to step things up a gear with the new DMC-FZ38. This piece of kit is referred to as a 'hybrid superzoom compact camera' – what that means to the rest of us is that it's a 12.1-megapixel camera that will take pictures, record high-definition video and has 18x optical zoom, among loads of other features.

You'll have no problem getting up-close and personal with your subject matter either, since it has a Power Optical Image Stabilizer that stops handshake when you're using the 'superzoom'. This ensures you can form your own texture library with ease.

Thankfully, the FZ38 isn't too pricey either. We managed to find it online for around £290 excluding delivery – not bad at all. For more on this little beauty, visit www.panasonic.co.uk.

Build up your own library of textures with Panasonic's DMC-FZ38

Software shorts

Get the lowdown on updates and launches

Voice-O-Matic update

Lip-sync plug-in for 3ds Max, Voice-O-Matic now supports 64-bit software. The update also means artists can get their mitts on some extra presets, added compatibility with 3ds Max 2010 and improved quality overall. The plug-in is said to save 80 per cent of the time it would take to manually animate lip-sync models. Visit http://tinyurl.com/voiceomatic/.

PaintStop plug-in

PaintStop is a plug-in for ZBrush. It gives you the feel of using real-life art tools on your computer. Choose from lots of different styles, including airbrushes, charcoal, pastels, watercolours and marker pens. There's even the chance to pick various types of canvases. Ideal for giving your work a new twist. Check out www.pixologic.com/zbrush/features/paintstop.

3DArtist online.com

Create your gallery, browse the artwork, chat with experts and artists and get tips and techniques at

www.3dartistonline.com

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Feast your eyes upon these, the best images to have been uploaded to the 3D Artist website during the last month

A

B

C

A The Kitchen
» **Vasyl Mihay**
Vasyl says: "I am an interior designer in Ukraine. This was a project to showcase a new kitchen design. It was modelled in 3ds Max and rendered in V-Ray with postproduction work done in Photoshop."
We say: A fine-looking kitchen with lots of traditional wood elements, alongside technology such as the television set.

B Bio Tech Weapon
» **John Moonon**
John says: "Part-human, part-machine, all weapon. Manufactured in secret, unleashed on the enemy, no one will survive. Rendered in Poser 8 with no GI."
We say: An excellent futuristic image with obvious Matrix overtones, but transplanted into a bright and sunny scene.

C Panopolis
» **Ryan Knope**
Ryan says: "Restaurant designed while at Rockland Studios in Baltimore, MD, USA in 2006. 3ds Max, V-Ray and Photoshop. There was a deadline of three days from start to finish."
We say: A good piece of interior architecture with decent lighting and details.

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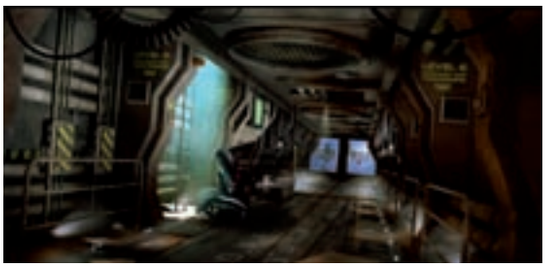
Picture of the month

D Akima
» Deane Etheridge
Deane says: This portrait image was rendered in Poser with postproduction work carried out in Photoshop. It was originally published in Exotique 4 from Ballistic Publishing."
We say: A great portrait study – we love the skin textures and the details around the eyes.

Pictures of the week

THESE ARE THE IMAGES THAT WERE AWARDED PICTURE OF THE WEEK IN THE LAST MONTH

Loose Thoughts
» Ehsan Azzuz
Ehsan says: "This is a combination of 3D model and Photoshop work to show wild thoughts."
We say: This creation is like some kind of demented vision out of your worst nightmare – but we think that it's a great image all the same!



They're Inside
» Paul Massey
Paul says: "Some colour adjustment and the addition of an unwanted visitor in Photoshop. 3D work/render done with CINEMA 4D."
We say: It's the addition of the alien that brings this scene alive, plus the fact that all the lighting was done in the render, so there's no postprocessing work.

Dream Catcher
» Alyson Smith
Alyson says: "In Grandpa's shed, he's been making his baby granddaughter's birthday present. Modelled in Maya."
We say: A feast of details. You can spend ages looking at the elements.

PERROXX
» Dayvid Ryan
Dayvid says: "This model was built and rendered in CINEMA 4D."
We say: There's quite a lot of mechanical detail as well as a sense of menace in this scary robot creature.

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Have your say

Write, email or use the website forums to get in touch about the magazine, your problems or triumphs

Send your letters to...

Email the team directly with your letter
3dartist@imagine-publishing.co.uk

Log in and leave your comments on the forum
www.3dartistonline.com/forum

POST TO:
The Editor, 3D Artist,
Imagine Publishing,
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33 Richmond Hill,
Bournemouth,
Dorset
BH2 6EZ, UK

Name the artist

In the feature in issue 4 of 3D Artist on DAZ Studio, there is a section on page 38 that lists essential websites where content like those pictured in the article could be found. Directly above this article is a cute little picture entitled *Cheesecake* done by Rob Caswell and displayed at www.renderosity.com. The picture in question is being held up as an example of the possibilities of DAZ Studio. The character and outfit being used to create this picture are entirely my own creation. A character named Cookie. Cookie is an exclusive product only available at the store www.runtimedna.com. RuntimeDNA is a store hosting dozens of merchants, many very well-known names in the 3D community, a catalogue of thousands of products (both free and commercial) – a store that has been a cornerstone in the Poser community since before DAZ Studio even came into existence.

The picture you ran with would not have been possible without my products from a store that wasn't even mentioned. I'm flattered that my character is good enough, that a render using her is being used to spotlight DAZ Studio's possibilities; however, not even having the store I sell her at show up in the listing of 'other places you could find content' when my character received such an honour is a bit disheartening. Perhaps you could do a follow-up on other content providers and correct this oversight.

Regina LaGrone, by email

Well, it's not really an oversight, as the beauty of being able to buy items and characters in stores means that it's down to the user to create the scene with them, and the user in this case was fully credited. However, I'm happy to let everyone know what the character is, who designed it and where people can buy it from.

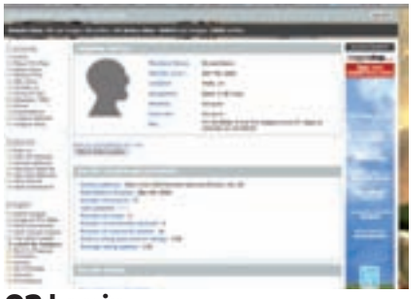
Set up your online gallery

REGISTER AT OUR WEBSITE, UPLOAD IMAGES, CONTRIBUTE TO THE FORUMS

www.3dartistonline.com

01 Register your details

First click on the Join Now box in the top right-hand corner. Fill in your personal details – the ones in blue are mandatory. Think of a good member name and a password. When you're happy, click Create User. You'll be sent an email with a link. Click this and enter your password to activate your account.



02 Log in

Your account is now created. Every time you visit www.3dartistonline.com, enter your username and password to log in. If your PC or Mac allows cookies, you can store the password and log on automatically. Click the top-left link to access your account. Now click on Add New Image to add some images.

03 Upload pics

Fill in the title of your picture and describe how you made it and what it was for. Pick a category and navigate to the image for the upload. It can be 1,280 x 1,024 max, and must be a GIF, JPEG or PNG. Hit Submit Image. Once we've approved it, it'll be added to the Gallery and your portfolio.

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Perfect portraits

I bought your magazine and, after thinking about it for a while, I uploaded a few of my images to your gallery site. I read in the magazine that when we feel really passionate about an image we should drop you an email. I'm an artist and vendor for V4 characters, but my life revolves around trying to make Poser characters as realistic as possible, and with my image *Jamie* I just uploaded I think I came very near my goal. I have attached the image and I would be glad if you had a look at it and let me know what you think.

Ute Mulrooney aka Syltermermaid, via email

Thanks for sending your image in Ute, we think it's pretty good actually so we're pleased to share it with everyone else here on the letters pages. If anyone else has something that they are particularly proud of, please feel free to either upload it to the Gallery or send it to the editor directly.

Sexy back

Way back when, I spotted that a magazine had come out called *3D World*. I saw the first issue in WHSmith, flicked through it and was blown away. Here was a great magazine that had tutorials in 3D for all levels, from beginners to advanced users. However, like many love affairs, this one seems to have turned very sour. The last issue I got had just 27 pages devoted to learning and most of it was way out of my depth. The rest of the magazine seemed to be a load of insider waffle. The good news, though, is that I've fallen for a new younger lady that seems to have all the energy and excitement that any younger model has. 3D Artist may not have many more pages of tutorials to fill, but the style and form of the magazine seem to fit more with me. I'll be attending university in September to study Computer Graphics, and 3D Artist has the feel of a magazine geared towards the amateur/student/enthusiast. As such, it feels more vibrant and relevant to me personally, and for this reason I have started subscribing and look forward to every issue with giddy excitement. Keep up the good work and keep thrilling us with your sexy young ways.

Michael Barker, by email

We're glad you're referring to the magazine as being sexy rather than the editor – that's too disturbing to even think about! Good luck with your studies and remember to let us see your work.

Dabbling in 3D

First of all, a belated great job on your first few issues. I'll be honest in that I picked it up because of the great freebie on the cover of issue 1, but was soon blown away with the images inside, realising that this will be my main 3D art magazine in the future!

Armed with the excellent Vue Easel, I've started creating 3D rendered vistas, which blew me away in that I, a total novice, could create something like this and with something so reasonably priced. I've been heartened to see that big companies like ILM use its top-of-the-range software for big-budget films, too. I've been incorporating my backgrounds and rendered animations into my stop-motion movies on YouTube (www.youtube.com/user/angrychair1412), and now have just downloaded the free version of DAZ Studio 3 to take a plunge in creating models – especially after seeing Anastasiya Igolkina's fantastic cover image on issue 4.

I think one of the main points I like about your mag is that you successfully break down the barriers for newbies like myself into realising that even if you can't afford 3ds Max, you can still create great images with averagely priced but powerful software. I'm starting to realise that if you have a creative idea, the tools are at your disposal and you have the ability to use them, then the possibilities are endless.

Thanks to you and your contributors for the inspiration.

Jay Walker, by email

You've hit the nail on the head. Everyone can get involved with 3D without paying upfront, whether that's starting out with DAZ Studio 3 or Blender, or going for environment creators like Vue. There are also personal learning editions of other 3D programs as well.

Jamie
Originally from Poser, Ute has transformed this character into something more realistic.
Image courtesy of Ute Mulrooney

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Duncan Evans talks to Chris Bainbridge of Make_Studio about diversity in the visualisation market

Making an impact

Company Make_Studio
Founded 2008
Company website www.makestudio.co.uk
Country England
Expertise Architectural CGIs, product and web design
Client list Garmin, Swarovski, Guinness, Nude Skincare, Seven Developments, Dorchester Town FC, Taylor Wimpey, AFC Bournemouth, Clearwater Homes
Software used 3ds Max, V-Ray, Photoshop, Flash

> Make_Studio has a small team who offer a huge range of services, from brand and identity, photography, print and web design to the 3D side

Chris Bainbridge is the owner and creative director of Make_Studio

After completing a degree in Furniture and Product Design at Nottingham Trent University, Chris Bainbridge worked as a designer, eventually turning freelance. When it got to the point that the workload became substantial enough to increase capacity by taking on various specialists in different areas of multimedia, forming a company seemed the next logical step.

Bainbridge took the opportunity to become a limited company last year with the aim of building a complete design agency, the 3D element being its main focus specifically within architectural and industrial areas. As owner and creative director of Make_Studio, Bainbridge is involved in day-to-day management and sales as well as actively producing work across all fields.

3D Artist: *What are the main services that Make_Studio offers and the areas of CGI that it covers?*
Chris Bainbridge: Make_Studio has a small team who offer a huge range of services, from brand and identity, photography, print and web design to the 3D side, which has encompassed product, architectural, Papervision, packaging as well as commercial areas.

3DA: *Is there a particular style or ethos that you bring to your projects?*
CB: A lot of the architectural CGIs and brochures are for the luxury property markets, and it tends to be depicting fairly idealistic settings. We may have to adopt different styles depending on the brand or requirements of the client, and this can also mean being sympathetic to the nature of the design and the function of the image.

3DA: *Who are, or have been, some of your main clients?*
CB: We have continued relationships with local developers and have been lucky to

Ⓐ Make_Studio consists of an office in Bournemouth and it has a secondary one in London

Ⓑ A project commissioned by Seven Developments for a CGI visualisation of a waterfront property

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Key Project

Garmin – Forerunner 405 website

Client Garmin

We created a full microsite to help market and promote the new GPS Watch from Garmin. A highly accurate model of the watch was matched in finish and colour to be the basis for the site. We created 360-degree animations, which were exported as separate JPEG frames and then into the Flash timeline. Coupled with 2D imagery and text, the animations were used for impact and to highlight each of the watch's main functions and key selling points. Using the 3D model, we were able to provide various views of the product before the watch had existed. Showing the two colour options became seamless with a change of material colours, and the unique touch-dial menu navigation was able to be shown when implementing alternative renders into Flash.

The site was translated into several languages and ended up as a showcase website for Garmin in many countries. Its success led on to producing a similar style site for Garmin's Edge GPS for bikes.

produce work for the following companies: Guinness, Budweiser UK, Habitat, Swarovski, Nude Skincare, Seven Developments, Dorchester Town FC, AFC Bournemouth and also work with various agencies across the country.

3DA: *Do you tend to work more in industry visualisation, commercial or residential, or is it an across-the-board approach?*
CB: We offer an across-the-board approach, but we have a large proportion of work in the residential property sector and I think this is where we'll continue to get most of our revenue from.

3DA: *What is the most interesting/rewarding residential project you've worked on?*
CB: Recently, we've just worked with a company to visualise a beach club/restaurant, which will be based on the United Kingdom island in The World development in Dubai. We have had a few opportunities – mainly bars/restaurants – where I have been able to have input in the overall design. On this occasion, I was able to have free reign to produce a scheme based on the client's initial direction. It has been an exciting concept, which I hope goes ahead. It is based around a main swimming pool that has a walkway through it with floating booths inside, while the main surrounding is elevated in order to take in the views of the Dubai coastline. We managed to turn the whole project around in less than four days, and so far the client is very happy.

> "We have an office in Hackney, where one of our 3D artists/directors is situated"

3DA: *You've completed a couple of proposals based around the national sport of football for Dorchester Town FC and AFC Bournemouth. What did those involve and were you surprised that relatively small football clubs were looking at improving their infrastructure in this way?*
CB: Dorchester Town FC has plans under way for a potential new stadium, hospitality suites and restaurant, and we recently helped them visualise new enclosed training grounds. Our service has been valuable for showing how plans will translate. AFC Bournemouth also has new plans for a sports academy and a huge regeneration to the overall club under new management. As you said, these are relatively small and so our service is there to help gain the funding by providing the visual elements that will help those not able to understand architectural plans so easily. CGIs are becoming the standard medium for presentation, even to the point where we've

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> Dorchester Town FC has plans for a new stadium and hospitality suites. We helped them visualise new enclosed training grounds

had local builders use us to show a visual of a simple balcony extension for a customer, which works so well for them.

3DA: *Another project of yours was a PR image for Guinness to celebrate St. Patrick's Day with a pint of the black stuff. What's the story behind that commission and what was the image meant to convey?*
CB: Splendid Communications came to us to produce a press image to accompany an article it was producing on the pub of the future. They had a futurologist research how the way a local pub could be transformed through technological advancements. Holographic friends, 3D sports projection, floating bar trays, interactive displays and virtual pool were some of the elements needed to be displayed in a traditional pub. It went out on St. Patrick's Day as some additional PR for Guinness and went across national papers and online blogs.

3DA: *Do you have other offices around the country or world, and if so, what function do they have?*
CB: We have a secondary office in Hackney, where we have one of our 3D artists/ directors situated so that clients in London can call in for quick contact. We use FTP and

C An elevated view of Dorchester Town FC's planned new stadium

D A Guinness promotion for St. Patrick's Day based around the concept of the pub of the future

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E

F

G

> We do a lot of studio and on-site photography to composite certain elements

Skype to maintain constant communication, and that way it makes no difference to being in the main studio.

3DA: *Do you use different tools for these differing products, for example, Maya for animation, 3ds Max for still images? Or to put it another way, what tools do you regularly employ and why?*
CB: 3ds Max is our product for all CGI work. Photoshop is obviously essential for the postproduction work, which is becoming more and more of a time-saver and life-saver. We do a lot of studio and on-site photography to composite certain elements or create reference material. It can become a lot easier to create the context we need for people and shoot them with the final image in mind. This was especially relevant for the Guinness PR image. We've looked at different rendering packages, Brazil for a while, but V-Ray seems to have become the industry standard now.

3DA: *How many people typically work on a project, either in-house or externally?*
CB: Everything is nearly always in-house, as there's more control if things go wrong. It can be a single person on a residential development and then one or two others may join in for postproduction work. We've had large projects with freelancers in and the studio has been humming away until the earlier hours with seven or eight people in it. It's important to be able to adapt your capacity dependent on the project and still be able to keep overheads in control, especially in the current climate.

3DA: *Can you give us some idea of the actual production pipeline for producing an image or a set of images for a client?*
CB: Plans come in, which then run through an initial meeting to determine what views, etc, are needed. Once that and the costs are agreed, we will take CADs and strip them down to reduce file sizes. Meanwhile, site visits are often needed to get an idea of the area and perhaps some 'in situ' photography. Once the base model is created, we send an initial render off to the client to confirm angles. The materials are added along with the lighting before an initial first stage is produced to get a sign-off on overall composition, colour and materials. Finally, we build the image into its environment, with planting, skies, people and cars all added here, and then a final look at colour grading to finish.

3DA: *The building and visualisation industries have both been detrimentally affected by the recession. How have you*

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found market conditions and what are you doing to counter this turndown?

CB: The building industry has really had a bad time, and it's obviously affected suppliers of all industries. At the start of Make_Studio, I had concerns of an 'all our eggs in one basket' scenario and decided to look for work that wasn't property development. We picked up jobs for Garmin, Swarovski and we became the main design agency for Nude Skincare, a premium cosmetics brand, and this helped when things in the residential sector dived. We've been lucky with this and although there was a drop in new work this year, it seems to have picked up as a few of our clients prepare to build projects that will be ready next year. CGIs have been an invaluable tool for showing accurate representations of what's planned, and therefore a renewed interest seems to be about. However, the advertising industries seem to have gone very quiet, budgets are being cut and the worst of it isn't over yet.

3DA: *What are your plans and ambitions for the company in the future?*

CB: We have expanded into many aspects of the creative industry; there are video virals in the pipeline and we're pushing other aspects of the company that are starting to grow, such as branding and identity and web, both of which we'd like to implement more three-dimensional elements. We also have a close relationship with another CGI specialist, with the possibility of a merger in the future to offer a wider range of services and capacity. There's huge scope for digital media now, especially online. Architectural animations are becoming increasing popular, budgets are there and increased processing power is making the high end more accessible. We really want to start looking more at interactive walkthroughs for online platforms.

Key Project

Swarovski Optik – EL Hawk

Client Solid Productions. Directed by Andreas Hafele

We were asked to help create a 50-second animation to be used to present Swarovski's leading binoculars, which would be then placed into postproduction by Solid with a live film of a hawk, the emblem for Swarovski Optik. It was a particularly challenging project, consisting of about 14 different shots based around a concept of it floating in space, using 3D to create motion that couldn't be created in a real-life situation. I worked with Andreas for four weeks in total, on my own with the computers, working day and night and all weekends to create over 1,500 frames of animation. I supplied various passes as depth, alpha, Z-Depth (for depth of field in postproduction) and various material ID passes to aid colouring. The final shots had issues with random noise pattern consistency on the Bump maps, and so a large amount had to be rerendered at 1,920 x 1,080 (HD resolution) and were taking roughly 45-60 minutes per frame to render.

There was a very abrupt learning curve on this project, especially the control of camera movements and the output of passes, keeping the lighting uniform then changing camera angle also provided countless issues. Keeping organised on projects like this is paramount; the simple basics like file naming, material and object naming, etc, all pay dividends when things get confusing.

E Make_Studio uses V-Ray for rendering on most projects, especially now it has new developments with its RT system

F A project commissioned by Gee Developments for a CGI visualisation of chalet developments

G A project with Seven Developments for a CGI visualisation of a waterfront property named Infinity

H A CGI and design concept for a restaurant on King's Road for a private client

I "We have Maxwell Render also but we just don't get the time to fully utilise it, although it seems by far the best for product shots"

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Key people

Allen Hastings
Chief scientist

Brad Peebler
President

Stuart Ferguson
Chief technology officer

Inside Luxology

Luxology's modo doesn't try to be all things to all people, but the team behind it are dead serious about both quality and fun as Mark Bremmer reports

Swiss Army knives are great for outdoor enthusiasts, but you probably won't find one in a surgeon's operating room despite the multiple cutting blades and other handy tools. Likewise, for the 3D professional, there are times that an all-in-one 3D solution simply isn't the right tool for the job. Truth be told, professional 3D studios use a host of tools depending on the assignment. With deadlines looming, there can be no room for single 3D software favouritism – just performance and results.

For seven years now, Luxology's modo has been a surgeon's scalpel. The core team at Luxology come from a varied background; however, many of them herald from the formative years of NewTek's LightWave 3D, and were instrumental in creating that significant 3D package.

But what if you are the kind of person who is passionate about 3D first and foremost and business second? What if the business goals and the 3D goals get switched because you are in a corporation that you don't control?

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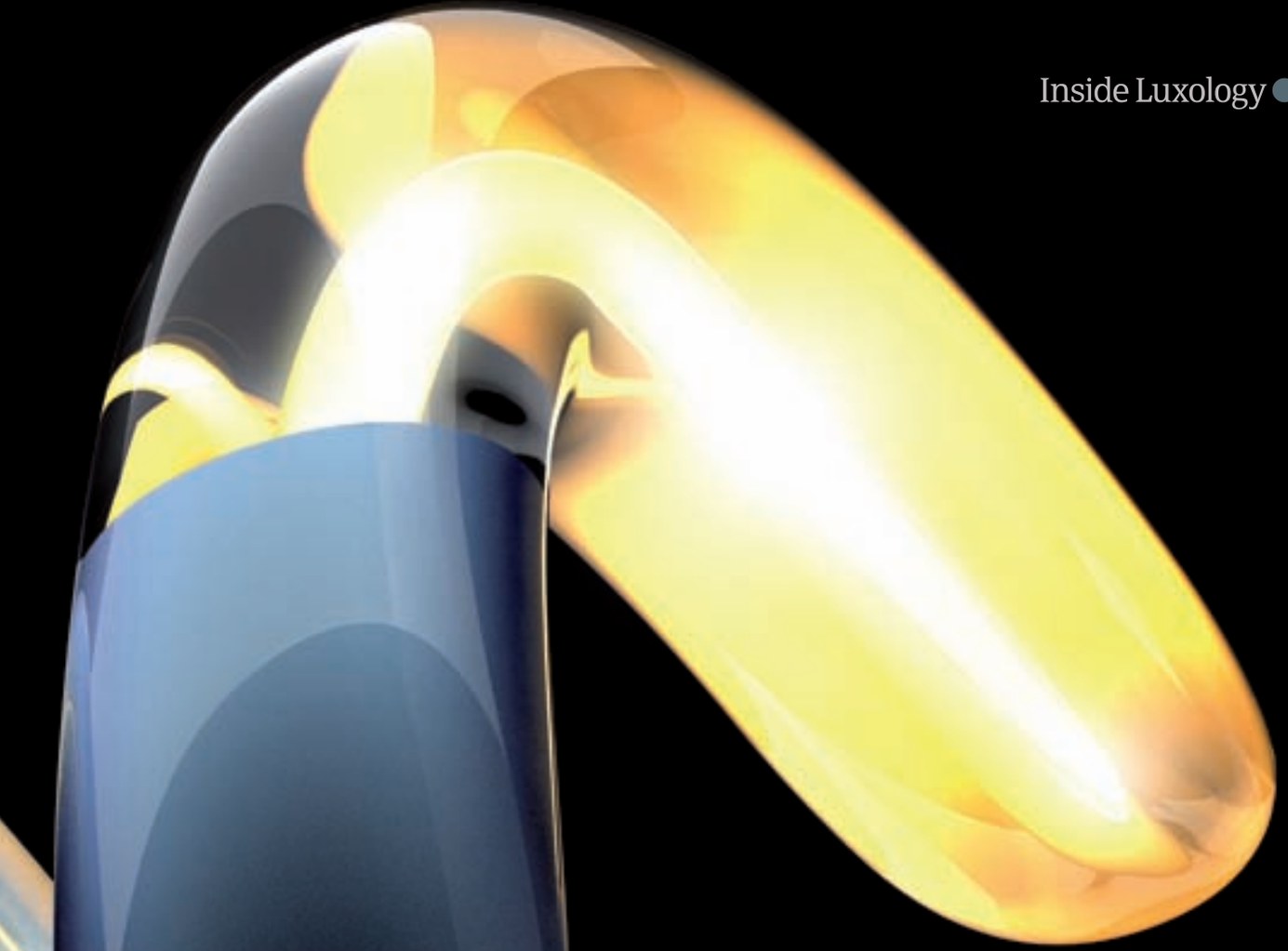

The history of Luxology

As is true with most large business entities, the larger and more successful they become, the more businessy they become and the less personality they have. There are shareholders to account for, sales goals to meet, profit margins to ensure and markets to penetrate. Commonly, the energy and excitement that is crucial in the successful genesis of the original business falls by the wayside. And the people involved that had all of the energy? Either they adapt or move on.

For many of those who became the Luxology core staff, it was time to move on. But not all at once, says Luxology's internationally renowned president Brad Peebler: "I left NewTek without any preconceived ideas of a specific direction. I taught LightWave seminars and courses for a while and loved the teaching aspect, but I began to realise that what drew me to teaching was my passion for good 3D." How passionate was Peebler about 3D? "When I went to watch films, I ended up not liking other companies' effects and kept thinking of different, better ways to make things happen. I got into the business because of 3D – not into 3D because of the business. I vowed not to let myself get in that position again."

The modo timeline

2002 – Luxology formed

2003 – modo demonstrated at SIGGRAPH 2004 – modo 101 released in September

2004 – Major studios begin using modo: Digital Domain

2005 – modo 201 announced including 3D paint, UV unwrap and physical-based shading rendering

2006 – modo 201 released in May; August – modo 202 released; modo wins Apple Design Award for Best Use of Mac OS X Graphics

2007 – modo wins Game Developer Front Line Award for Best Art Tool

2008 – March – modo 203 released; April – modo 302 released with increased rendering options, animation features and Physical Sky/Sun models

2009 – June – modo 401 released with hair, replicator, animation and rendering additions. 64-bit for Windows

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The modo community

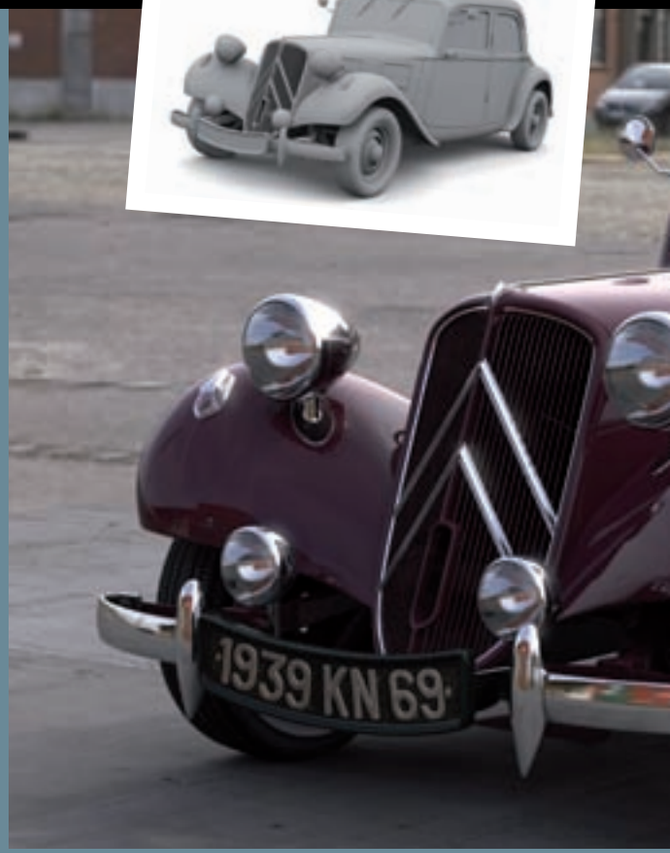
When visiting the Luxology site or even reading the documentation for the software, it doesn't take very long to pick up the fact that you are experiencing something unique. There is a kind of effortless, tongue-in-cheek humour and informality that, instead of diluting the professionalism and business sensibilities, actually enhances it. Peebler explains: "It's natural. Our market is full of artists. It's just us. It's not a conscious decision. We simply treat our customers the way we would like to be treated ourselves."

These sensibilities extend to the Luxology forums, as Peebler says: "Since we started, I think we've only deleted something like six posts. The forums are for discussing 3D software of all kinds, but really, as long as it's tempered, you can talk about anything. And if you feel like you must prove something, we have a forum entitled, 'My x is bigger than your y'. Simply put, we like to help people do what they're doing better."

"It's a philosophy of abundance versus scarcity," remarks Peebler. "We know users employ all kinds of 3D software, so why not embrace that and help people use all of it better?" A quick tour through the forums proves the point. In fact, many conversations where help is being given are as much about pipeline integration as they are about specific software.

Luxology is very careful about features it elects to develop for modo, as Peebler says: "We get into arguments about the direction of modo; however, it's usually about what not to include. Many of our users come from situations where they are using multiple software solutions, so we get quite a few requests of favourite capabilities that they would like to see become part of our effort. It's difficult to say no to users. We try to stay focused and produce exceptional toolsets within an appropriately narrow area."

"Our customer base is smart professional and amateur CG artists, both with a touch of geek," offers Peebler. "Why would we not want to have a comfortable environment that respects that?" Why, indeed.



» **(Above)** Images courtesy of Yazan Malkosh

But that became a starting point to ask fundamental questions about the nature of 3D software. "There is this tremendous pressure to become everything to everybody in the CG world. But it's unrealistic," says Peebler. "Regardless of how good a 3D software package may be, studios are quick to identify weaknesses, strengths and which software may have a little more mature or elegant solution to a CG need. Studios end up using multiple software packages to meet their needs."

Peebler's experience, beginning at NewTek as technical support and finishing as its president of 3D, began to yield insights that were instrumental in shaping what was to become Luxology's modo software. "I realised," he says, "that the people who are at the centre of CG creation are artists, not technologists. It was becoming apparent that CG software, was starting to impede the creative process for artists. Content development was increasingly becoming difficult. This was an opportunity.

"Of course, while all of this was bouncing around my head, I was bouncing it around other people's heads, too," mentions Peebler. While he is the president of Luxology, creating a new company wasn't a solo effort. "I was very fortunate to make some strong relationships while at NewTek – people that simply shared a love of 3D for the sake of 3D." Allen Hastings is Luxology's chief scientist. Responsible for creating LightWave 3D in 1989, Hastings has received an Emmy Award for his work on LightWave and recognition as one of the most influential people in the animation industry. His expertise in animation and rendering algorithms continues to yield dividends at Luxology. Joining Peebler and Hastings was Stuart Ferguson, who is now Luxology's chief technology officer. Also receiving an Emmy for his work on LightWave, Ferguson was a key figure in developing the interface design for LightWave's premier geometric modelling system. As well as interface expertise, he was responsible for much of LightWave's general application infrastructure and cross-platform development.

Together, the trio of Peebler, Hastings and Ferguson decided to form a company that was privately held and then they carefully sought funding from private angel investors to keep the usual corporate structure at arm's length as much as possible.

> "An artist's tools should accelerate creativity, or complement it at least"
>
> **Brad Peebler** – President, Luxology

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» Citroën
Stuart Rowbottom's use of modo's ambient occlusion

» Side
Image courtesy of Andy Brown, Luxology

» R8
Image courtesy of Ryan Drue, Luxology

Image courtesy of Models from Mars

Space Needle

How Luxology's modo was used in a big project to create a realistic render

When the owners of Seattle's Space Needle wanted a photorealistic 3D sequence of the iconic structure for a new marketing campaign, advertising agency Radarworks called upon Dawson 3D.

The art direction Dawson received was both simple and challenging. Even though no real-world camera could capture the close-up perspective required, the sequence had to look as if it was physically filmed. The client's objective was to inspire people at the Space Needle's base to visit the restaurant and observation deck at the top of the 605-foot Googie-style structure, built for the 1962 World's Fair.

Dawson began by using modo 302 to model the Space Needle in hyperrealistic detail, working from architectural drawings and photos. modo's animation capabilities were then utilised to create spiralling camera moves around the tower all the way to the top. At that point, the camera smoothly pulls back, flies around the exterior of the observation deck and then sails over the structure, looking straight down. Other views of the Space Needle for the homepage of the website were created simply by adjusting the digital camera in modo in order to achieve the exact perspective desired.

» Space Needle
Image courtesy of Dawson 3D

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» Print CGI
Image courtesy of Clive Biley, Rob Lanario and Chris Veitch (Smoke and Mirrors, London)

Developing modo

"The next step was to figure out how to make money," laughs Peebler. So the team of founders took a hard look at what they wanted, what they offered and decided on a course of action, as Peebler reflects: "We elected to do something that is almost counterintuitive: build an application that is designed to be 'non-integrated'. Essentially, we wanted a collection of micro applications that can stand on their own yet be an integral part of existing pipelines."

» Improvements in OpenGL rendering provides almost render-quality results in real-time

Luxology decided to approach architectural and product design prospects with a unique proposition: 'let us build something for your existing software that you don't have'. That something turned out to be an animation evaluation system and a rendering system, as Peebler recalls: "Because we were starting from square one as a 3D provider, we realised that creating a cross-platform technology that could also be licensed was a good way to begin generating revenue."

That business decision, coupled with a modular approach to software, was the foundation of Luxology's Nexus architecture upon which everything is built, including modo. "Having this capability allows us to approach our customers much more as a partner rather then a vendor," highlights Peebler. "For established 3D developers, there is no need to buy a whole new 3D system, educate users, plus experience the slowdown of the learning curve. Take Dassault Systèmes, which makes a premier CAD design system called SolidWorks. What this lacked was a credible, realistic previsualisation/rendering system. We responded with what became PhotoView 360, which provides interactive, physically based lighting and surface materials to render with. Now the end client of SolidWorks users can see concepts that look like they were shot in a studio or on location." A similar arrangement was created with Bentley Systems, further extending the capability of its wide CAD product line. Obviously, SolidWorks and Bentley gained tangible benefits, but so did Luxology. It was a stress test for its render engine.

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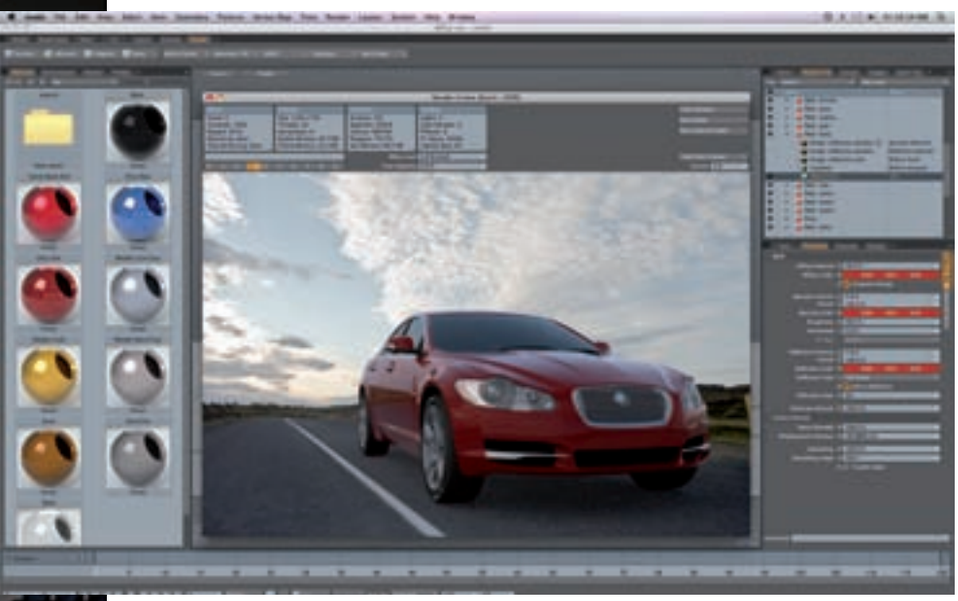

NASA lunar rover

How Luxology's modo was used to create a realistic render

The new NASA lunar rover, the six-wheeled Lunar Electric Vehicle, made its first public appearance during the parade at the 2009 inauguration ceremonies for US President Barack Obama. The prototype was visualised in modo 302 software by NASA designers at the Langley Research Center, enabling them to create a photoreal image of the vehicle prior to physical production. The designers' precise rendering relied heavily on features such as micropoly displacement, which allowed them to get the texture of carbon fibre just right. Both parade attendees and TV viewers saw the first public showing of the next-generation rover produced by NASA for the proposed manned return to the moon in approximately 2020.

Meanwhile, Luxology was also developing its content-creation tools. First and foremost, it developed a highly capable subdivision surface and polygon modeller. modo began to take form with special attention paid to unique tool capabilities, like Tool Pipe for artist-controlled customisable tool creation, Edge and Edge Weighting and Tool Falloff, giving artists more intuitive and interactive hands-on tool control.

While development was taking place, the founders elected to start a web community for creators to connect and talk about the 3D world. "3D is hard and people need each other to do well," Peebler comments. The significance of this was a continual stream of software development thoughts and, more importantly, development attitudes that were introduced into the 3D community.

The groundwork was laid. By the time modo was demonstrated at SIGGRAPH 2004, significant users in the 3D world were aware of what it was and why it was being developed. Within seven months of modo's release, special effects company Digital Domain integrated it into its workflow. Others were soon to follow.

'modo doesn't do as much as other 3D packages'. When presented with that comment, Peebler bristles: "modo isn't supposed to do everything. That was never our intention. Our goal is to do select important things better than any other. If we help someone shave six hours from their workflow by having a better UV unwrap feature than they currently use, then we've done our job. If we can help an artist quickly create content that's then imported into another software in their pipeline, then we've done our job." While not an attitude that is equally shared in the industry, it's one that endears modo users. The Embassy Visual Effects' Tristam Gieni comments on its use of modo in the development of a GMC Yukon television commercial for Leo Burnett: "modo addresses a lot of shortcomings we have experienced with other software. We've been using it at The Embassy for some time, and as the application evolves it is becoming increasingly relevant to our methodology." And that's the Luxology way.

> "We've been using modo for some time, and as the application evolves, it is becoming increasingly relevant to our methodology"
>
> **Tristam Gieni,** The Embassy Visual Effects

» (Top left) Texturing has been improved so that drag-and-drop application of shaders is available. Image courtesy of Luxology

» (Bottom left) Replicators make quick work of populating anything, from landscapes to branches, by instancing objects

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Jonathan Edwards talks to Paul Dobson about the growing use of 3D in the regional press

Read all about it

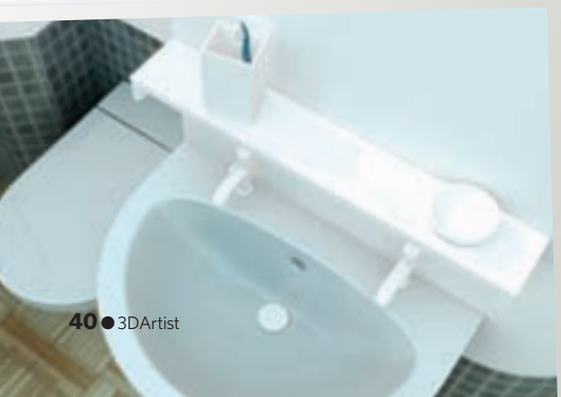
> The special effects on *Star Wars* really caught my attention, but I was also very much into Airfix models

Ⓐ

Company Real or Render
Website www.realorrender.com
Country UK
Software used 3ds Max, Maya, After Effects
Expertise Media, 3D animation and art, websites
Client list *The Bolton News, The Bury Times, Warrington Guardian*, Urbis, Warrington Borough Council, Warburtons, JBD Architects

Paul Dobson

Ⓑ



When you think of companies that can make use of 3D designs, local and regional newspapers rarely come into the equation. Yet graphic artist Paul Dobson has been producing 3D work for the newspaper group Newsquest for four years, and the company has increasingly become tuned in to the potential benefits.

Based in Bolton, 40-year-old Dobson began his career producing two-dimensional advertisements for the *Leigh Journal* before moving to the *Bolton Evening News* (since renamed *The Bolton News*), but the rapid uptake of broadband and his passion for 3D art allowed him to spread his wings and work on the paper's website. Although he started with static 3D art, his skill in 3D animation has regularly caught the eye of readers. He has since been asked to produce work for other newspapers in the group and it has led him to create stunning 3D animations for the company's large business award shows in Bury, Warrington and Blackburn. This brought him to the attention of firms in Lancashire and Merseyside and prompted him to set up Real or Render.

3D Artist: *How was your talent for 3D spotted by your employer?*
Paul Dobson: The *Bolton News* website was beginning to look tired and a proposed revamp was still some time off. The web team was keen to give the existing site a lift, working within the strict parameters of the content management system, and so they turned to me. At the time I had been building sites and creating 2D animations in Flash on behalf of advertisers, but one of the multimedia journalists who had a major interest in gaming asked if I was interested in 3D. I told him that I was a 3D enthusiast and within a month he had persuaded the editor to begin experimenting with 3D art and animation on the news websites, and it really took off from there.

3DA: *How did you get into 3D?*
PD: The special effects on *Star Wars* really

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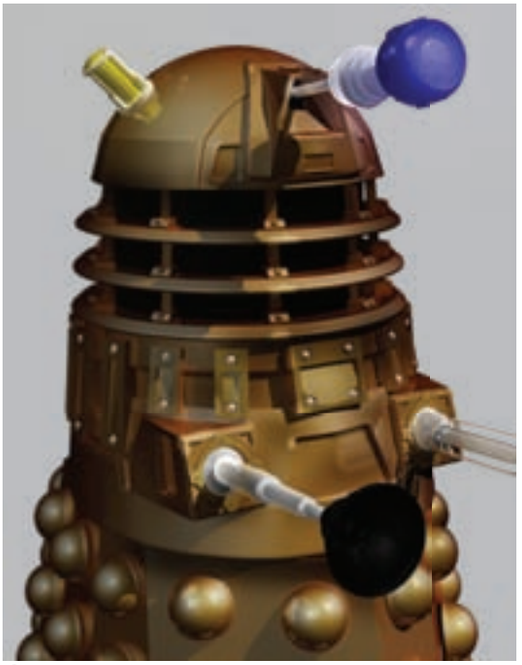
C

D

E "To coincide with yet another popular singing talent contest, we aimed to find our own vocalists with our Singing Stars initiative. This was my ITV-style animated intro"



F "If you have aliens invading, you really do need to have some Daleks thrown into the mix..."

caught my attention, but I was also very much into Airfix models. I used to get glue and paint absolutely everywhere, but it was the desire to create something in 3D that led me to checking out Macromedia's Extreme 3D 2 on the Mac in 1997 and I really started to dabble. I've been a graphic artist for 20 years but being able to move from 2D to 3D was a chance I had to seize and I've played around with it now for more than 10 years.

3DA: *To what extent can 3D enhance a newspaper's website? What value does it bring and what opportunities are there for 3D artists?*
PD: We've discovered that 3D animation in particular is successful in drawing audiences to parts of the website that they may otherwise have overlooked. A photograph or a 2D picture blends in with the web page, but a fun 3D animation offers something much more dynamic and eye-catching, really arousing people's curiosity. The trick is to provide something unique and we have actually had people – young people – who are into gaming and 3D graphics complimenting us and asking for hints and tips. We tend to use 3D more actively with our news campaigns, the whole point being to raise awareness that we are running them, and the evidence shows it works.

3DA: *Give us examples where your 3D has worked in a way a photograph or 2D art would not.*
PD: We had a campaign that highlighted the problems of potholed roads. On the face of it, it's a worthy but quite dry topic, so to promote this we decided to produce a 3D animated trailer and deliberately went for a fresh MTV style, giving the campaign extra impetus. A photograph of a pothole or a 2D animation just wouldn't have had the same impact as our 3D truck driving down a deliberately distorted view of shops and disappearing into a huge hole to the sound of a hammering rock guitar riff. You can stretch reality in 3D, raise a smile and get people talking.

3DA: *Are you skilled in one particular area and have you been asked to produce anything that really stretched you?*
PD: I like to think of myself as a good all-rounder. I use Maya, 3ds Max, Photoshop and After Effects. If anything really stretched me, it was the big-screen animations I've had to produce for various business awards put on by various newspapers in our group. They were used to open each award ceremony and so had to really set the tone for the night. The tight deadlines were a killer.

3DA: *Why do you use those packages?*
PD: Primarily because they are the industry standard and also extremely powerful. I think if you're serious about 3D, you have to become au fait with the best software for the job. You want the tools to work for you rather than the other way around, and once you master these packages then 3D creation comes quite easily.

3DA: *Tell us more about the animations you produced for the business awards. How did you approach the projects and how long did they take?*
PD: It was a wonderful chance to be truly creative, and the management left me alone to come up with the theme and storyboards of each animation. They last between five and seven minutes and the only stipulation was that they had to carry the logos of the

A "Potholed roads may be a dry subject, but I hoped to raise a smile with this MTV-style intro"

B "A Northwest company making bathroom suites wanted to show customers its newly produced range before it was built"

C "Produced in just three months – but causing many late nights – the first business awards animation had dozens of helicopters flying around a city"

D "For April Fools' Day, we decided to produce a fun video in which we showed Bolton being invaded by aliens. Depicted here is the mother ship"

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G

Key Project

Newsquest Business Awards

This is a still from my second business awards animation. The first involved helicopters flying around a city carrying boxes plastered with sponsor logos, and it was really upbeat. But with the credit crunch and with many companies across Britain sinking, I felt an underwater theme would be suitable for this year, with an emphasis on the buoyancy of the local economy. I was keen to grab the viewer and take them on a journey, introducing them to various characters, from crabs to sharks and fish. Each character was used to show the sponsor logo – at one point, I had fish circling to form the logo of telecommunications company O2. I was given a lot of artistic licence to create something arresting, and it was a proud moment when it was applauded by those who attended the award ceremony.

H

I

> Looking for work in unusual places can reap rewards

award sponsors. Each section was sketched out with pen and paper first, and then traced or modelled in 3D before being animated. I try to be more and more ambitious with each project.

3DA: *You work alone and yet create some ambitious projects. Newspaper environments are notorious for tight deadlines so do you sometimes have to cut corners to deliver on time?*
PD: I don't feel as though I do cut corners, but due to the experience I now have I manage an efficient and effective workflow. Having said that, I do have some very late nights working from home.

3DA: *What challenges do you face as a 3D artist in a world of photos and words?*
PD: Newspapers are changing. Currently, the focus is as much on the websites as they are the printed product, and so as time has gone on there is a realisation that you have to try new things. Although I don't work solely on the creation of 3D images – I also edit videos using Avid Xpress Pro and I am an extensive user of Photoshop – producing pictures and animations in the third dimension has given the website a nice edge. We are still only touching the surface of what can be done – more three-dimensional work for individual stories showing murder scenes and so on would work very well – but the fact is that we are pushing forward and experimenting.

3DA: *From where do you draw inspiration?*
PD: I enjoy science fiction and I generally watch any kind of animation or film I can get my hands on. When you look back to *Toy Story,* which was stunning, and see where we've got to since then, it's simply amazing.

3DA: *Why have you decided to set up Real or Render and what are your future plans?*
PD: The more animations and short movies I produce, the more people ask if I can do work for them, too. So I felt it was a natural step to set up Real or Render, too. I produce work for architecture companies looking to win contracts, and I also help out with fun projects – a Bolton version of *Cloverfield,* for example – using some Hollywood-style effects without the LA budget. But I'm also interested in game art and I've begun to learn how to create games using the Unity engine with one eye on the iPhone. My 3D work has also been used during pitches for event management, producing modelled renders using clients' concept sketches. It's a busy period, for sure.

3DA: *Do you have any tips for 3D artists looking for work?*
PD: Well, I started to work on 3D professionally almost by accident, but a strong portfolio and a real passion for art are given prerequisites. Looking for work in the most unusual of places and thinking out of the box can also reap rewards.

G "This was produced as part of the underwater business awards video. It shows a number of fish forming the O2 logo"

H "Although not used as much now, all of our videos preceded by this rendered animation only took a day to produce"

I "It was important to create a visually arresting video for an audience of 600, so each shot was packed with visual stimuli"

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Not just for dummies

Mac for Beginners
Android for Beginners
All you need to get started with your Android device
All the essential apps
Setting up your device
Learn about Gmail & Maps
Full guide to Android Market
iPad for Beginners

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Step by step

Easy-to-follow guides take you from concept to the final render

Artist info

Dieter Meyer

3DArtistonline

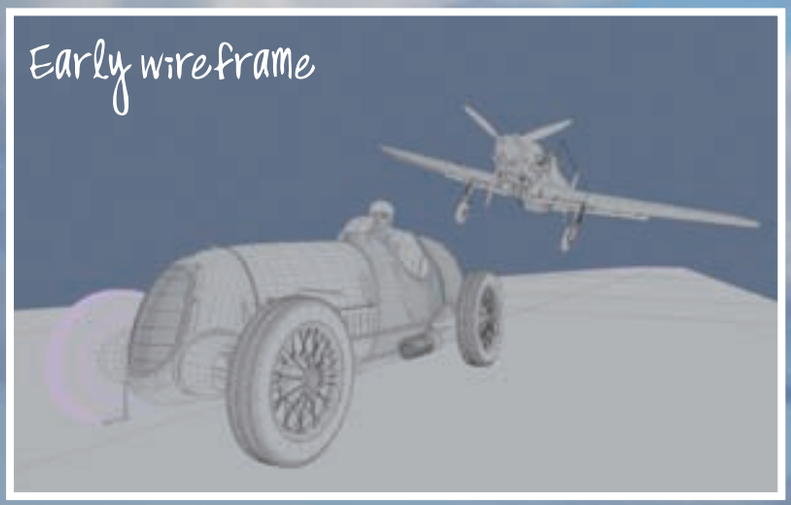
Username: Deetz

Personal portfolio site
www.cg-artworks.com

Country Canada

Software used modo 401, Photoshop, Mudbox and Painter X

Expertise Dieter has always liked reading about military history, and believes that creating scenes with combat aircraft or armoured units is a great way to show some of the incredible events. His favourite kind of 3D work is hard-surface high-poly modelling



On the Disc

High-poly model of the Alfa Romeo 12C36
The racing car model is on the CD in modo format

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Software used in this piece

Painter X | modo 401 | Mudbox | Photoshop

Step by step: Pedal to the metal

Modelling, Texturing, Composition

A Friendly Duel 2009

"I wanted to create an interesting composition of a race between a late-Thirties race car and a WW2 fighter"

Dieter Meyer is a freelance illustrator

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The main goal of this image was to show a fictional race between the Macchi C.205 Veltro fighter plane and the Alfa Romeo 12C36 racing car, which might have taken place as a morale booster on the island of Corsica in the Mediterranean.

I will concentrate on how I modelled and rendered the image of *A Friendly Duel* and walk through the creation of the Alfa Romeo and the Macchi fighter using modo with a combination of subdivision surfaces and poly modelling. modo is an excellent modelling package and very user-friendly, but there were still some very tricky areas on both models and I'll show you what I did to solve these problems. This tutorial won't get into detail on all of the controls used to model in modo, but it will give you a guideline on the workflow that was used to make the models.

I'll also go into the elements of creating good composition and share some important tips for laying out your artwork that will make it really stand out of the crowd. Composition is an important part of creating any artwork.

> A fictional race between the Macchi C.205 Veltro and the Alfa Romeo 12C36

Concepts

Rough ideas to final design

01 Choose an environment

I decided to develop the image based on a bright sunny theme, so I took some high-resolution images of a sky with interesting cloud formations. I left the picture as it was without fixing any elements at this stage, as I just wanted to get a good idea of the background I would be working with.

02 Define the concept

Now that I had a suitable environment, I could begin to rough in the background areas and decide what would work well with the sky that I had taken pictures of. My first thought was to have some low-rolling hills nearby; however, this didn't suit the look I wanted, so I went with some higher distant hills that would make for a more interesting horizon line.

03 Fill in the foreground

Next, I sketched out a tree line that was nearby. However, this made the image feel very closed-in and everything seemed to bunch up. In the end, I left it open and only added small bushes, which kept the space balanced. I also planned out where the grass would sit alongside the runway.

Original ideas

Air shows are always big attractions, and the display of aerobatics and the roar of aircraft engines is a big crowd puller. Of course, today these are powerful jets, with most of the aged WW2 aircraft remaining on display. So I thought that my Macchi and Alfa Romeo race would make for a fun image to create.

I began by roughing out a few ideas in Painter very quickly to get an idea for what I wanted to show. The time it takes to build and render a model to get to the final image can take as long as a few months, so it is important to lock down what is wanted. Sometimes this will evolve, and you have to be prepared for it to change into something completely different by the time the model is complete.

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Modelling

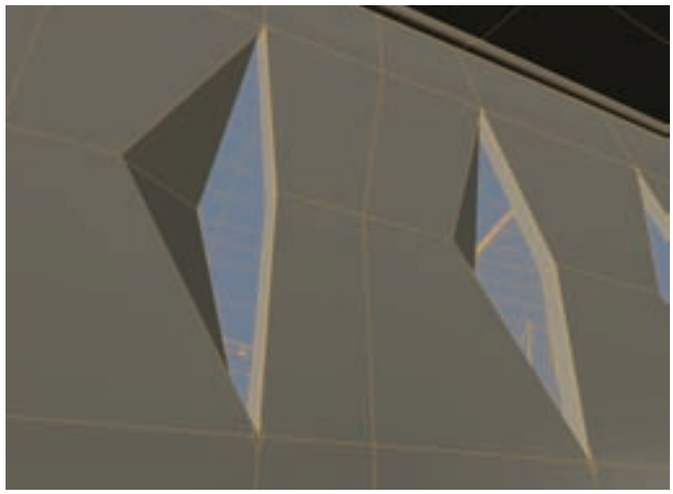
Work on the elements

The overall shape of the car was fairly basic, however, what I found to be the most challenging with this was all of the vents cut into the body on the round surfaces. This required a lot of planning to make sure that my polygon flow would remain clean once I started forming the vents in the subdivision surface modelling stage.

I also wanted to try my hand at modelling a high-poly version of the tires instead of using Displacement maps to render the tire tread. This wasn't really necessary, but it was fun to do and helped create a very nice studio render of the car. I modelled one wheel and duplicated it once for the rear, which is slightly larger, and then created an instance for the opposite side.

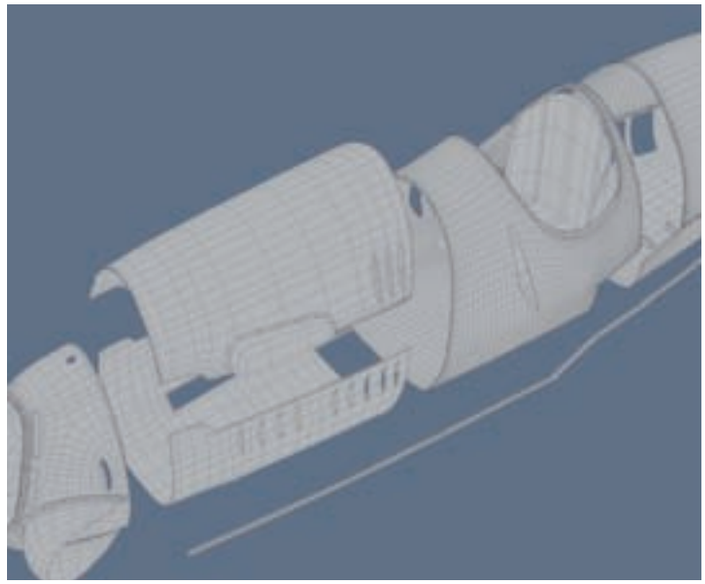
I didn't spend much time on the interior with the exception of the steering wheel, which was very large and noticeable, the leather seat and the instrument panel. The driver would cover up the rest.

Reference material was very hard to find on this particular car, so it was a big challenge in creating the detail for the steering and suspension that was exposed in the front.



04 Create the body

I started laying out the basic shape with an eight-sided polygon cylinder and began moving the vertices to closely match the car. I switched from the poly version to the subdivision surface version often as I worked to make sure everything was smooth. Once the basic shape was roughed in, I selected the areas of the mesh that would be panels and cut and paste them to a new mesh layer. I continued to refine the detail by adding edge loops to sharpen up the edges and corners where needed.

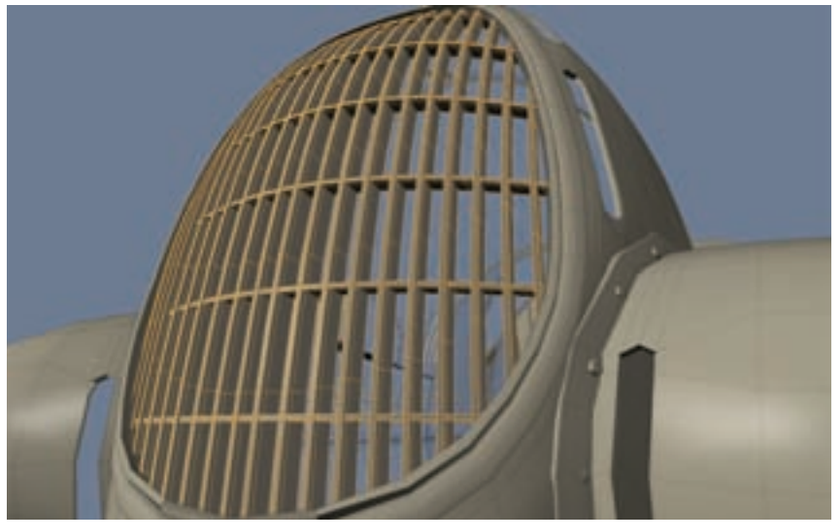


05 Cut in the vents

The section to have vents added was removed from the main mesh of the car and placed in a separate layer. I subdivided it twice to add more geometry (enough to allow the vents to be cut in). Three edge loops running horizontally were needed and one that would be the centre of the vent. With the Edge Slice tool, I added two edges to make a triangle. I selected the two polygons making the triangle and bevelled them in twice, then deleted the rear-facing two polygons. I then used the Edge Slice tool to add an edge around the top and bottom of the vent to sharpen the edges.

06 Model the wheels

I started the wheel by creating an eight-sided cylinder and added some thickness to create the width. I bevelled the caps of the cylinders twice and deleted the innermost polygons ready for the wheel rim. I adjusted the edge loops to create a rounded edge on the tire. Next, I added the tire tread to the surface of the tire. These were simple polygons placed on the mesh, and then I used the Radial Array tool to duplicate them all over the surface.



07 Add the front grill

I didn't want to have to tweak individual sections of the car's front, so I created a rounded polygon that fit in the space and duplicated it. I added edge loops vertically on one and horizontally on the second copy. I deleted the areas in-between the grills, then I selected the polygons making up the grill's surface and extruded them. The rear-facing polygons were deleted since they wouldn't be seen.

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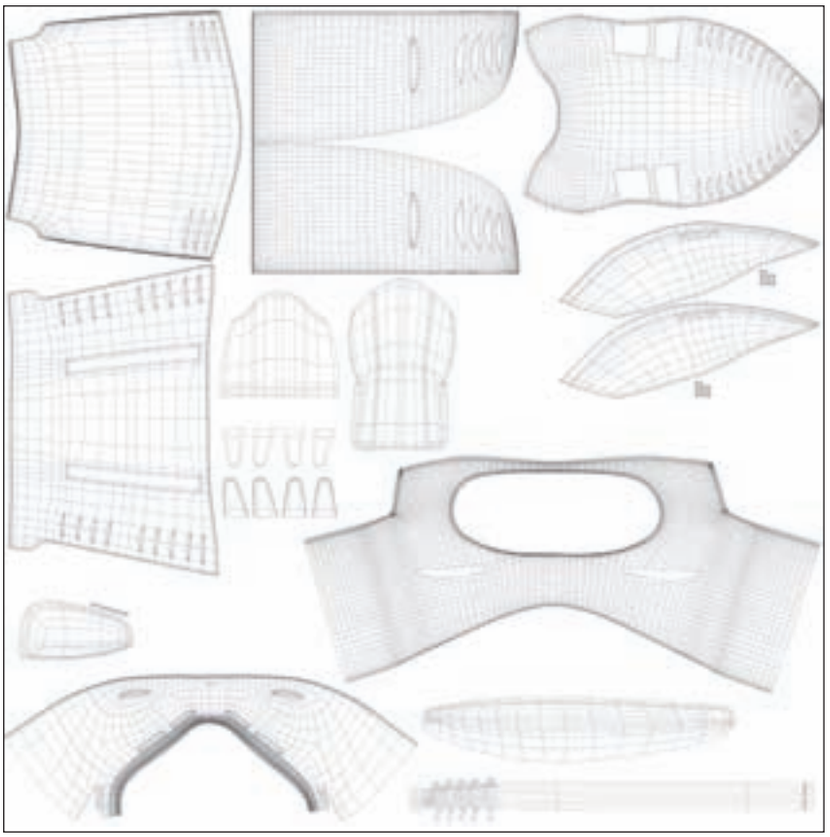
Texturing

Avoid a showroom-clean vehicle

08 Plan the textures

On high-poly models, I always break my textures up into several groups so I don't have to try to fit them all into one UV map. This allows me to create highly detailed maps. I broke the Alfa Romeo down into three parts: the main body, tires and the interior dash panel. Whenever you're adding numbers or insignia to areas that are round, the UVs must be flat so that they don't distort the textures.

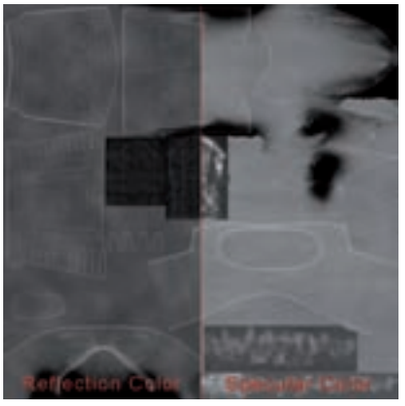


09 Texture the car in Photoshop

I imported the UV maps into Photoshop and set the file size to 4,096 x 4,096. I added a base red colour in the lowest layer, with everything else to go on top. I used a splatter brush that I downloaded to create the dirt and dust on a new layer with subtle variations in colour. I also added a small amount of noise to the red colour, which wasn't overly visible but these variations will help make it look not so perfect.

10 Specular and Reflection maps

The base of both maps was taken from the colour map that I converted to greyscale and resaved as a new file. The dirt areas could be black, while I added a new layer, filled it with white and used Filter>Render> Clouds, which was scaled down and set to Multiply to keep only the dark areas. The Specular map had a grey background and I used a one- to three-pixel hard brush to create small circles, spread over the map.



11 Light the scene

A single Directional light was used along with the Global Illumination and the Physical Sun attributes of modo. I increased the light intensity to 4 W/srm2 from the default of 3. I changed the settings so the light angle matched my backdrop of the clouds as close as possible, which was high and to the left of the image.

12 Render the scene

The car and the road were the first to be rendered. This was the longest because of the blurred reflections on the metal areas. The car and the road were next. I rendered the road again to capture the placement of the shadow from the Macchi. Last were the hangars in the background. If I had to edit the placement of anything, I could do this without rendering everything again now.

Lighting, textures & rendering

In real life, it doesn't take very long for dirt, brake dust and bugs to dirty a racing car. I imagined the car would have taken a few practice runs on the dirt runway, so some grime would have accumulated in areas. It's always fun to paint and texture dirty objects but it shouldn't be overdone. I had to find a good balance that would show the car had made a few practice runs and yet didn't just finish a rally race through mud.

The lighting would be kept very simple for this scene, using the Physical Daylight and Global Illumination physics that come with modo. After completing a few test renders, I didn't feel extra lighting was necessary for the final render.

As I like to create high-poly models, the eventual poly count would make rendering everything in a single pass too slow, so it was necessary to break up the renders into several separate renders that I would later composite in Photoshop.

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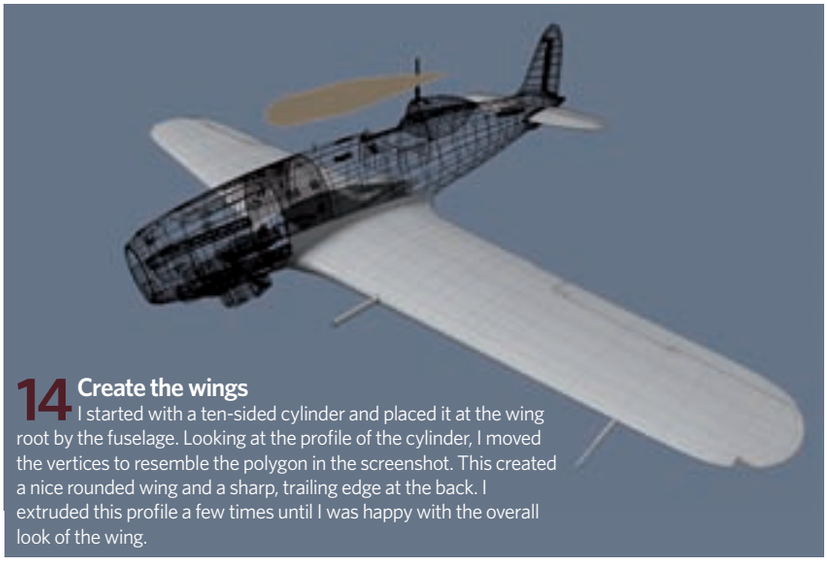
Construct the plane

Making the race come alive

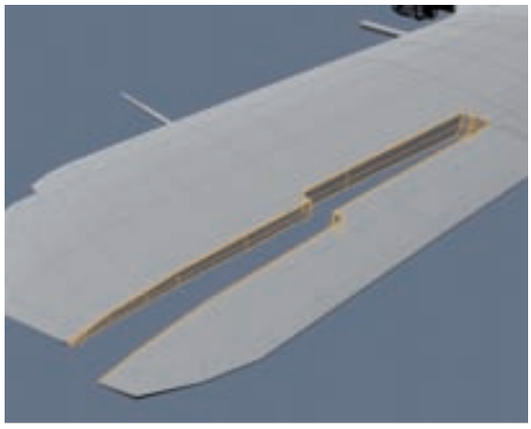
13 Create the fuselage

The first step in building an aircraft should be the fuselage, as this is naturally the core of the model and everything will be built from that. An eight-sided cylinder was created and shaped to closely match the centre of the fuselage or cross section, then extended to the next section and again reshaped until the whole fuselage was complete. I also cut in the cockpit tub and any open panels.



14 Create the wings

I started with a ten-sided cylinder and placed it at the wing root by the fuselage. Looking at the profile of the cylinder, I moved the vertices to resemble the polygon in the screenshot. This created a nice rounded wing and a sharp, trailing edge at the back. I extruded this profile a few times until I was happy with the overall look of the wing.



15 Cut in the control surfaces

The last phase was to cut out the control surfaces of the aircraft. Similar to how I model my panels, I copied the section that would be the aileron or other control surface to a new mesh layer. I used the Bridge tool (found in the Edge tab) to close the open area in the wing and the aileron. I then added two edge loops to the area I just filled in to sharpen the edges. I also used the Edge Slice tool to add an edge loop at the corners to make those sharp as well.

Artist Showcase

Dieter Meyer

I started out as an airbrush artist many years ago, airbrushing goalie masks or motorcycle helmets. As time went on, I found that I really had an interest in military subjects and 3D. It wasn't long before I started using Maya and then eventually made the switch to modo.

Galland's Aces **modo, Photoshop (2009)**
My image of four Me 262s that were part of JV 44 led by Adolf Galland

Engine Trouble for "Addi" **modo, Photoshop (2008)**
Adolf Glunz managed to survive the war never being shot down or wounded in combat, however, his Fw 190's engine failed and forced him to crash-land

Marder III H self-propelled anti-tank gun **modo, Photoshop (2008)**
I created this model because of the open turret. I like detailed models and this was an opportunity to really build some interesting features

Mapping the Macchi

I split the textures for the Macchi into three groups: one smaller map that would be for the cockpit and two larger maps for the wings and the fuselage that were 4,096 x 4,096 pixels. Each of the three groups of the Macchi had a Specular, Diffuse Amount and Bump map created.

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Put the scene together

Compositing, lighting, textures and more

10 hours **render time** Resolution: 6,396 x 3,240

Composition is very important when creating your artwork and is a challenge all on its own. I felt the best way to create a feeling of speed here was to show the car from a low angle coming towards the viewer with the Macchi to the rear. This puts the viewer at the same level as the main subject, in this case the car, almost as if you were standing beside the runway as they blast past. Motion blur is added to the runway to really ramp up the effect that they are racing at high speed.

16 Composite the renders

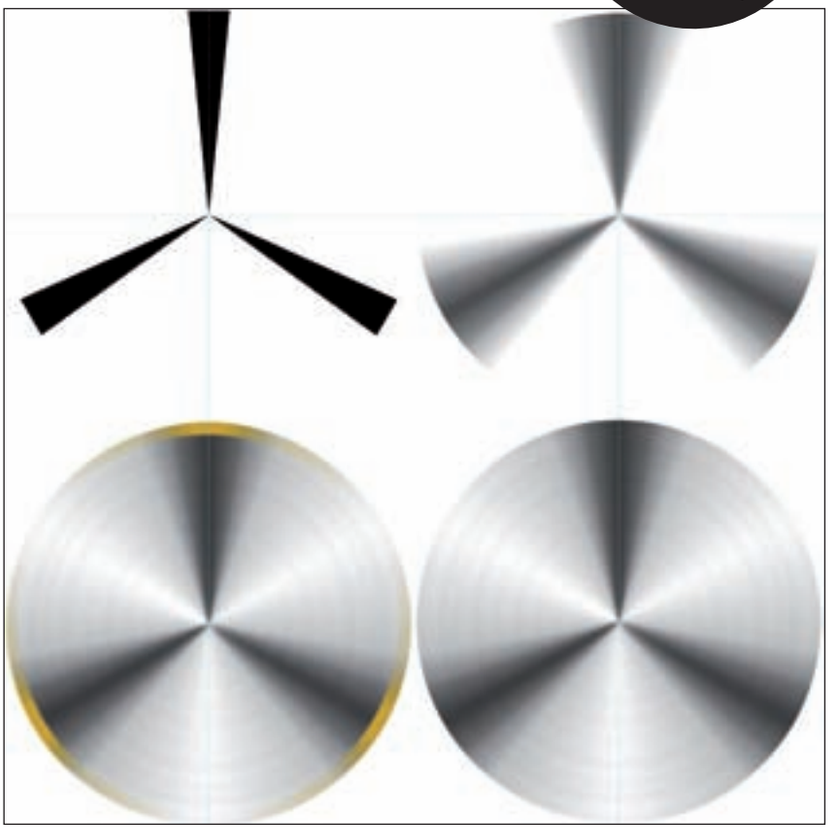
Next, I brought the files into Photoshop. Each render was assigned its own group in the Layers palette, then I layered the render passes above the colour pass. The Ambient Occlusion was set to Multiply, as this removed the white pixels and left the dark shadows. I added a two-pixel blur to the edges of each render, too.

18 Create the speed and dust

I selected the runway's alpha channel and set Motion Blur to a slight angle and the Distance to 40. Dust came from Xplosion brushes I downloaded from **www.qbrushes.com**. Checking Scattering and Shape Dynamics on the Brushes palette.,I painted five separate layers, starting out lightly so the dust would fade off.

Rendering

The hangars, Macchi and Alfa Romeo were all rendered separately so I could make changes later in Photoshop. Due to the final size of the rendered image I required, the render times for each subject increased a lot. modo lets you save to a file automatically once the render is complete. By setting the time frame to one and providing a folder to save in, large renders can be completed and saved overnight.



17 Add the prop blur

In modo, I created a circular plane as a reference, sized to the existing propeller and then rendered separately. Using a screenshot of the propeller from modo, I created a black silhouette and made multiple copies. Then, using Radial Blur set to Best, I blurred each layer of the prop, increasing the amount of blur each time until I had a nice smooth blur. I could then adjust the opacity as needed.

19 Final touches

The final touches to the image were to paint additional highlights and scratches I thought would make the car look more interesting. I used irregular grunge brushes with Shape Dynamics turned on and painted over some areas at Max Flow, then fine-tuned the opacity until I had the desired look. Metal highlights required the use of a soft brush and, using a white value, I painted some bright spots where the Specular was high. I also applied a Brightness/Contrast adjustment layer to the sky, as it was looking a bit dark.

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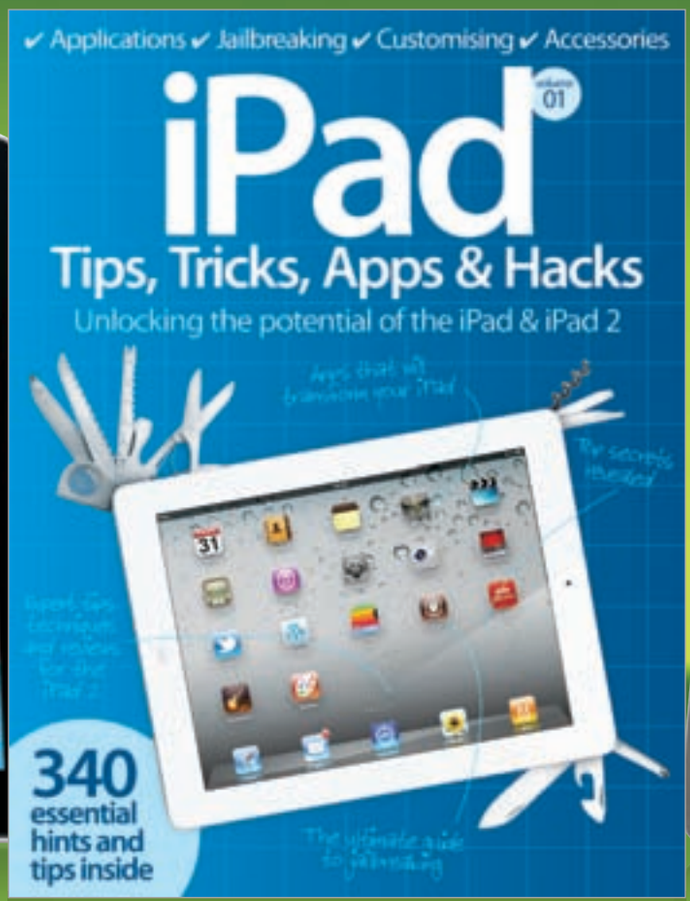
iPhone
Tips, Tricks, Apps & Hacks
The insider's guide to unlocking the potential of the iPhone
340
essential hints and tips inside

iPad



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Step by step

Easy-to-follow guides take you from concept to the final render

Artist info

Louise Choquette

3DArtistonline
Username: louly

Personal portfolio site
http://louly.deviantart.com/

Country Canada

Software used Poser 7 and Photoshop CS4

Expertise Louise has a fantasy style, mostly female characters, but also has an Art Deco/Art Nouveau influence in many of her images

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Posing, Composition, Photoshop

Step by step: Create an Art Nouveau illustration

Scent of Nature 2008

"With this image, I was experimenting with the Art Nouveau style and I was very much influenced and inspired by the work of Mucha"

Louise Choquette is a 3D enthusiast

Software used in this piece

Poser Photoshop

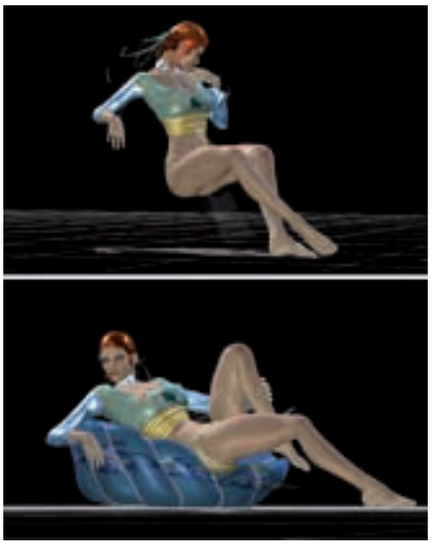
Poser provides an easy way to design a human figure in 3D. However, unless you model your own character morphs and clothes, it can be a challenge to design something unique at times. I tend to stay away from the often-blank look and mannequin-esque rendered 3D figure by investing a lot of time in posing the figure. I've also opted for mixed media in my work, hoping to create something original and to get as close as possible to a more painted look. Although it's impossible to develop a full-blown tutorial in the space allowed, I will take you step by step through my approach, from rendering a more realistic figure and pose in Poser to reproducing the floral and foliage motifs and flowing forms of Art Nouveau in Photoshop.

This step-by-step walkthrough requires intermediate skills but I hope I can give you a taste for experimenting a bit. I find that there are often happy accidents by mixing techniques learnt from others but mostly by playing with Photoshop layers, styles and blending modes to get the right skin colour and texture or for giving depth to flowers painted with brushes.

Concepts

Rough ideas for designing the image

01 I always research my concept before and during the creation process in order to find ideas and inspiration. Mucha was the biggest inspiration in this case, but I also studied other artists' work. I studied the poses, the twirls of the hair and of the motifs, the flowers in the hair and the draping of the dresses.



02 In Poser, I started playing with different poses, trying to match the pose of the first illustration in Step 1. I wanted to keep the laid-back look of the upper body, and after some experimentation I finally decided on a more vertical position of the figure and her legs, similar to the last illustration in Step 1.

03 I studied different styles of frames as seen in Mucha's work, then searched for available frame and background stocks and 2D resources. I also looked for vector art that I could use as a template and found the Art Deco painted backgrounds of Folkvangar to use as a base.

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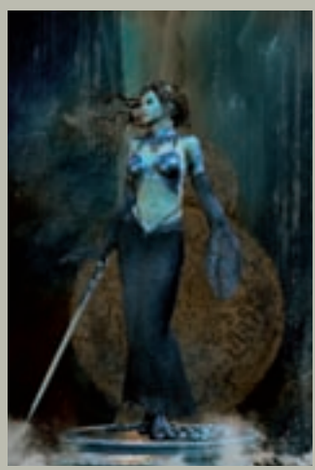
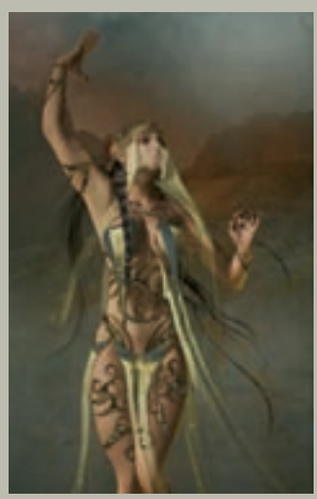
Artist Showcase

Louise Choquette

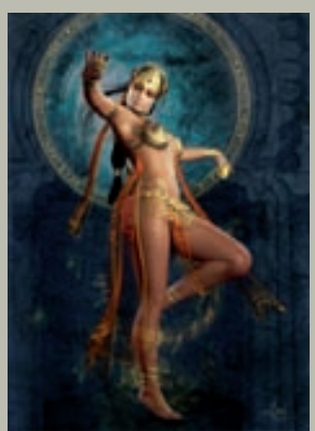
I was always drawing as a child and took art classes in high school, but didn't continue as an adult except for a couple of drawing classes. I always did creative work after that, but when I discovered 3D four years ago a new way of drawing opened up for me... and possibly a second career.



Nymphe des Grottes
Poser and Photoshop (2008)
This was a nymph I developed in Poser. The pedestal and circular stones were also rendered in Poser, using the same prop for both. The background and water splashes were done in Photoshop with photo stock, rock texture stock and water brushes. The flying curls were also added in postproduction



Desert Song
Poser and Photoshop (2009)
This was a commissioned image done for Powerage, who is a digital content developer for Poser. It was created to showcase his Fantasy Cult outfit. The figure was rendered in Poser and the background and hair were designed in Photoshop



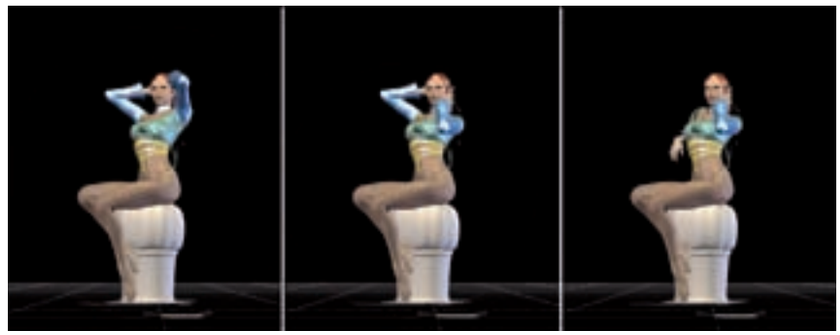
Magic of the Dance
Poser and Photoshop (2009)
A second image commissioned by Powerage to show the versatility of his Fantasy Cult outfit when mixed with products from other digital content developers (here, Salome by Val3dArt). I designed the effects and background in Photoshop with photo stocks and brushes

Posing

Setting the figure in place in Poser

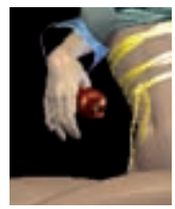
04 **I used the** Rayne for V4 model by Sabby, a hairstyle inspired by the Belle Époque period and a mix of clothing and accessories, all created for use in Poser. A veil in her hair – meant to add flow and curvilinear forms later in the final composition – completed the romantic look I was looking for.

05 **A believable pose** can make your image more professional looking. Use an existing pose as a base, like Tabala's retro poses here to position the legs. You can pose the left and right arm separately and design your own pose.

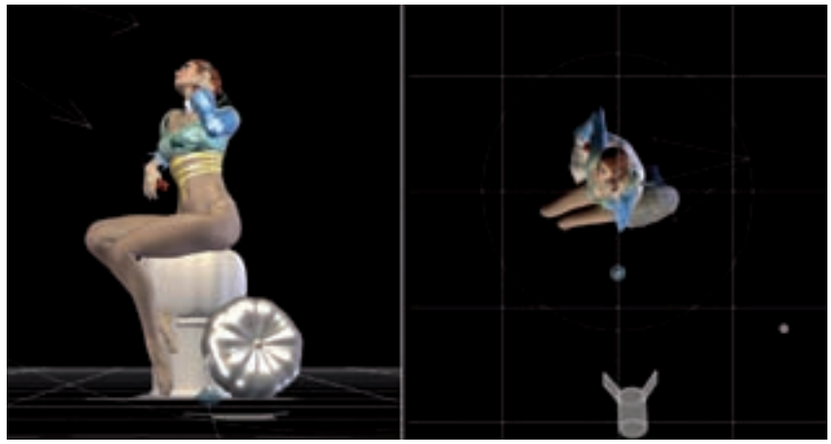


Posing tips

The key thing to avoid in Poser is the rigid look. That's why it can be useful to use a supplied pose to move the figure initially and then tweak the pose into the shape you want. Watch out for stiff hands and symmetrical leg positions. Try to tilt and move the head as well.



06 **I made manual** adjustments for her to hold the perfume bottle in one hand and the bottle cap in the other, then tilted her head to give her a more sensual pose, as if she was delicately dabbing perfume on her neck.



07 **If you're aiming** for an illustration style rather than a realistic render, you can keep the lights and settings simple. I used depth map shadows instead of ray tracing. Apart from a basic light setup, it was important to light her face from above and give contours to her body with a back light.

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Postproduction and composition

Putting it all into place in Photoshop

08 I kept the composition to a minimum because I was planning to design the rest in Photoshop. I also used the same stool with a different texture to pose as a cushion and added another bottle on the ground. I rendered the image at 300dpi and then saved it with a transparent background for easier integration within Photoshop.

09 I started with an Art Deco painted background by Folkvangar and changed the colours to harmonise with my rendered figure. I wanted four identical corners so I then copied the top part of the background on a separate layer and reversed it vertically, erasing the duplicate parts until I had two symmetrical halves.

Creating a painted look in Photoshop

To help realise the illustrative feel of the image, the figure needs to blend in with the background as in a painting. To achieve this, you need to soften the contours of the body and do some retouching. The Blur tool helps soften the contours, the folds of the body and any hard edges in her face or clothes. The Smudge tool also helps to reshape unflattering parts. To enhance lighting and shadows, you can play with the Overlay, Soft Light and Luminosity blending modes on multiple copies of the original figure and, with a blur filter, slightly soften it. Select>Color Range also helps achieving this by focusing on selected colours or areas.

10 I simplified the background design by painting over the bevelled floral ornaments on each side, using the Clone Stamp tool to duplicate the main texture of the background. I then put my rendered figure in place and deleted its shadow on the ground, as it was meant to be an illustration.

11 The dress was made of veil images, worked with layer styles to give them depth and texture and warped into place. I enhanced the figure's shadows and highlights with multiple layers and blending modes but also toned down the overall colour.

1 hour render time
Resolution: 1500 x 2500

12 I completed the figure by adding hair strands and flowers in her hair to see how everything flowed before I completed the background. The hair is painted PSD layers created by Ilona, which I modified to give colour and texture. The flowers are stock photos that I applied an artistic filter to.

13 I designed the background with the same orchid I used for her hair, and used flowers and flourishes brushes to paint foliage, playing with multiple layers and blending modes to add texture. I softened the contour and folds of her body and painted the perfume spilling out of the bottle for the final touch.

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I made this...

Incredible 3D artists take us behind their artwork

Artist info

Mohamed Abuyhia

Personal portfolio site http://abuyhia.cgsociety.org/gallery/

Country Egypt

Software used 3ds Max, V-Ray and Photoshop

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This image took two months to make. Over this time, I was able to establish a model library of tools and equipment which would typically be present in a workshop.

> Most of the modelling was done in 3ds Max by the traditional method of using editable polys, which always begin with a plane or cylinder. Using this simple method, I was able to build up a library of tools

The image was composited in Photoshop. Inside this great program, I corrected the colours and added some simple effects by using the brushes and the pretty plug-in Color Efex Pro 3.0 to add atmosphere and mood to the scene.

The Gift
2009

This image was based on the idea that a carpenter wants to give his son a gift, and the only thing he knows for certain is that he wants the gift to be new. Finally, he comes up with the idea of a wooden car, so starts to make it in his workshop. This image took about two months to create.

> I used the simplest type of materials for some of the objects. They contained two basic materials and a mask. I used this technique for 75 per cent of the objects

Software used in this piece

3ds Max, V-Ray, Photoshop

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Part two

Step by step: Create an elegant robot

Joybot 2009

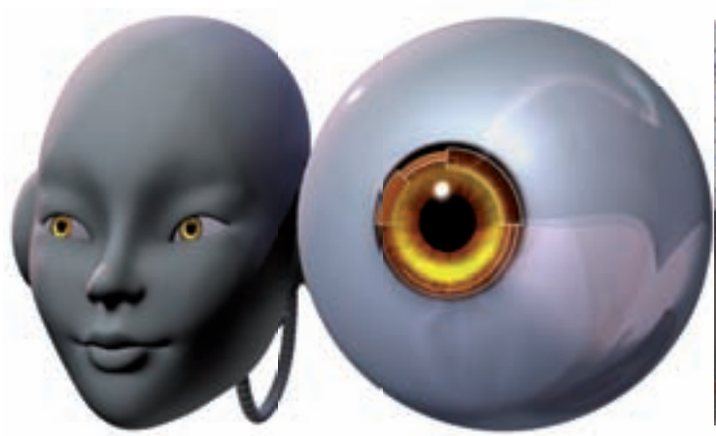
"A shiny futuristic robot pin-up girl, created as a portfolio piece for modelling and material practice"

Lee Davies is a graphics artist and an expert on 3D Artist's Q&A pages

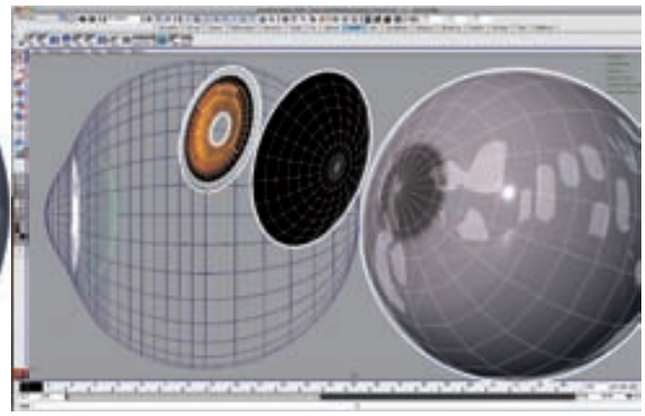
In part one of this tutorial that ran in the previous issue of 3D Artist, I detailed the step-by-step modelling process used to create the character, *Joybot*, from building base meshes in Maya to sculpting and refining using ZBrush and then back into Maya in order to divide the model appropriately into a robot's component parts.

In the second instalment of Create an elegant robot, I will give an overview of the remaining steps that were used to create the finished image, beginning with creating the character's eyes in Maya, UV mapping and texturing the component parts, then moving on to selecting the most suitable mental ray materials. I will then discuss how to use ZBrush's Transpose tools to pose the character appropriately, as well as running through lighting the scene and creating separate render passes in Maya and finally compositing and tweaking the finished image in postproduction using Photoshop.

Creating eyes
The windows to the soul



01 **Creating convincing eyes** is an important step when making any character, as they serve as both a point of focus for a viewer as well as lending personality and expression to the character itself. Even though they might actually appear relatively small in a final render, failure to get them looking correct can often result in a dull, lifeless image.



02 **The robot's eyes** were created in Maya. The geometry consisted of just three components: a NURBS sphere for the outer eyeball (with extruded isoparms at the front to create a very slight lens bulge), a concave poly torus for an iris and a buffer (which was assigned with a black lambert for a pupil).

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Software used in this piece

Maya | Photoshop | ZBrush | mental ray

Step by step

Easy-to-follow guides take you from concept to the final render

Artist info

Lee Davies

3DArtistonline
Username: leemale

Personal portfolio site http://leemale.cgsociety.org/gallery/

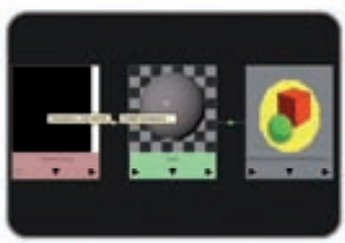
Country Ireland

Software used Maya, ZBrush, Photoshop, mental ray

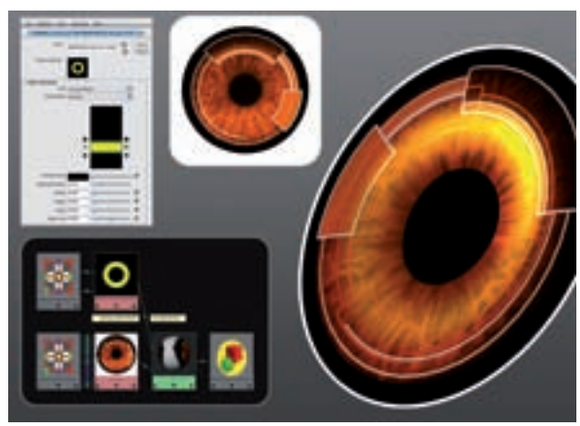
Expertise Lee currently works in a games studio, and has over ten years' experience of working in the creative industry

On the Disc

Maya_scene file
Various OBJ files
See how it was created



03 **While the component** parts of the eye geometry are not complex, the key to making them look right lies within the materials, textures and subsequent lighting. The outer eyeball has a blinn material assigned with a Ramp connected to the Transparency channel in order to create a lens. It features a high specularity value in order to create sharp, glossy light reflections.



04 **The iris shader** also features a blinn material with a modified image of an actual iris for a colour map, with a Circular Ramp assigned to the Specular channel in order to help them reflect a little of the scene's lighting as well as to lend them a mystical appearance.

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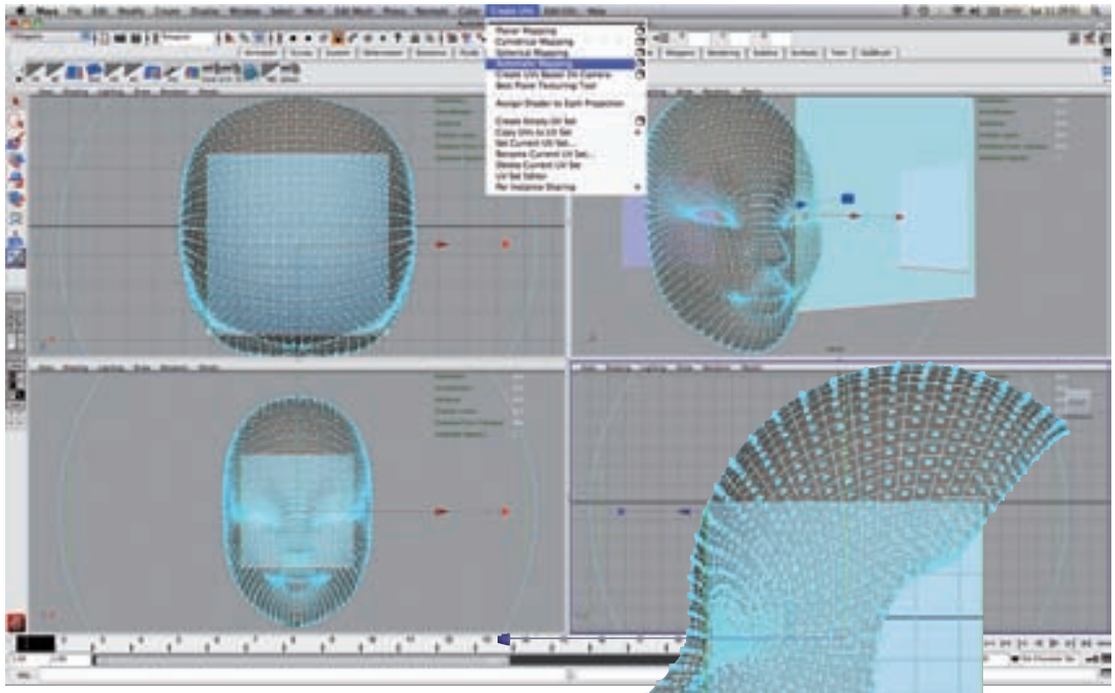
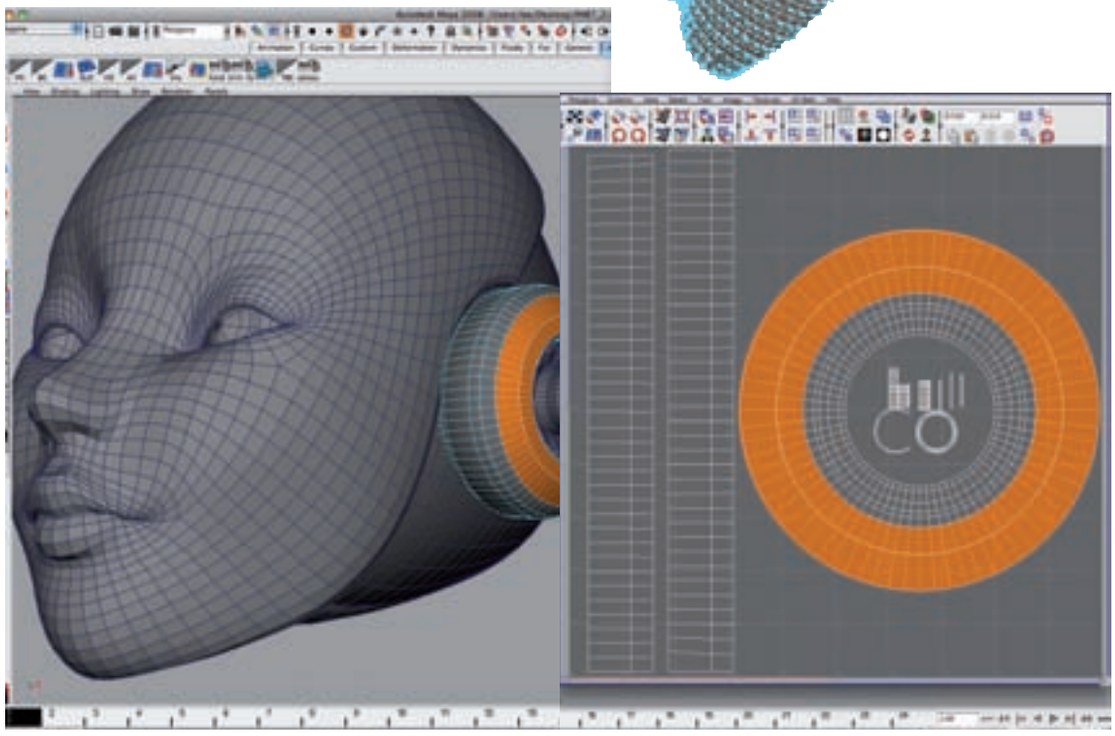
UV mapping

Apply the UV maps to the model

05 **The automatic UV** mapping options in ZBrush can prove to be an extremely quick and efficient method of applying UVs to a model, providing that all of the texturing and painting is to be done exclusively inside ZBrush, but the way in which the program lays out UVs makes further editing in any external package extremely tricky (if not impossible). For this reason, it was worth spending a little time laying out UVs manually in Maya, as I do regularly find myself needing to tweak maps in Photoshop.



06 **With the lowest** subdivision level of each mesh exported to Maya, automatic UV mapping was used to provide a starting point for manual editing. Edges were then stitched together and UVs unfolded and relaxed in the Texture Editor to create maps as cleanly as possible.



07 **Some UV maps** required less work than others. For the ear pod and collar meshes, for example, only the specific areas requiring label details needed to be laid out neatly, as the remaining areas would be uniform in colour.

08 **Once the UV** maps had been created, the low subdivision level could then be reimported back into ZBrush in order to transfer the UV mapping information to the higher levels.

Short cuts with UVs

Keeping UV maps symmetrical will often make editing a whole lot quicker and easier further down the line. One way to do this is to concentrate on mapping just one side of a mesh's UVs properly in Maya (using the lowest subdivision from ZBrush). Next, export the subdivision to ZBrush to transfer the mapping to the higher subdivision levels, then reimport the newly UV-mapped higher subdivision back to Maya. Delete the half of the face that wasn't mapped properly, then duplicate and flip the remaining half (scale -1 across x axis) and move and flip the UVs in the UV Texture Editor accordingly, before combining and stitching the two halves of the mesh (and its UVs) back together. This high-resolution UV-mapped mesh can then be sent to ZBrush and the lower subdivision subsequently reconstructed, too.

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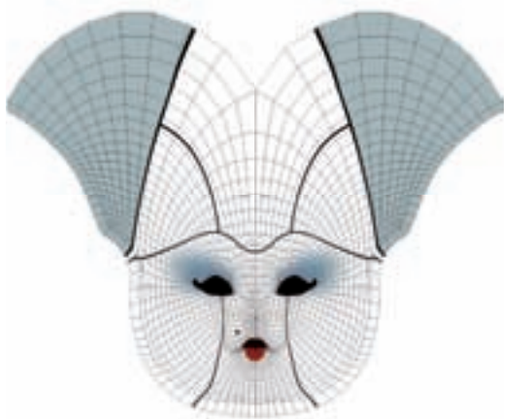
Texturing

Switch between ZBrush and Photoshop

09 **Once each component** had been suitably UV mapped and reimported to ZBrush as a subtool, texture maps were assigned by setting the Width and Height parameters from the Texture menu at a minimum of 2,046 x 2,046 pixels and clicking New.

Next, the colour maps themselves were created using ZBrush's ZAppLink plug-in. ZAppLink allows painting of textures directly on to a model via an external image editor (Photoshop in this case), which in turn gives access to all of the tools and features of that particular package.

10 **Because ZAppLink's texture** resolution is based on ZBrush's screen resolution and subdivision level, both were set as high as possible in order to achieve the best results. This will help to avoid jaggy-edged textures when transferring texture information back into ZBrush. Starting with a front-view projection of the head, I framed the subject in order to fill as much of the ZBrush work area as possible before dropping to canvas and sending to Photoshop.



> ZAppLink allows painting of textures directly onto a model via Photoshop, which gives access to all of its tools

11 **I then began** the process of painting details such as the panel lines on the face by stroking work paths with the Paint brush, alternately saving the Photoshop document, then returning to ZBrush in order to rotate or reposition the subtool and repeating the process until I got what I needed. As the UV map was symmetrical, it was only necessary to concentrate on painting one half of head (the other half was simply duplicated and flipped using Photoshop) afterwards.

12 **To apply logo** details, such as the Joybot emblem on the collar, geometry was positioned parallel with the scene view (with Perspective Distortion turned off). In Photoshop, text was then applied along a work path. For the resulting colour maps to work properly in Maya once exported, they will need to be flipped vertically.

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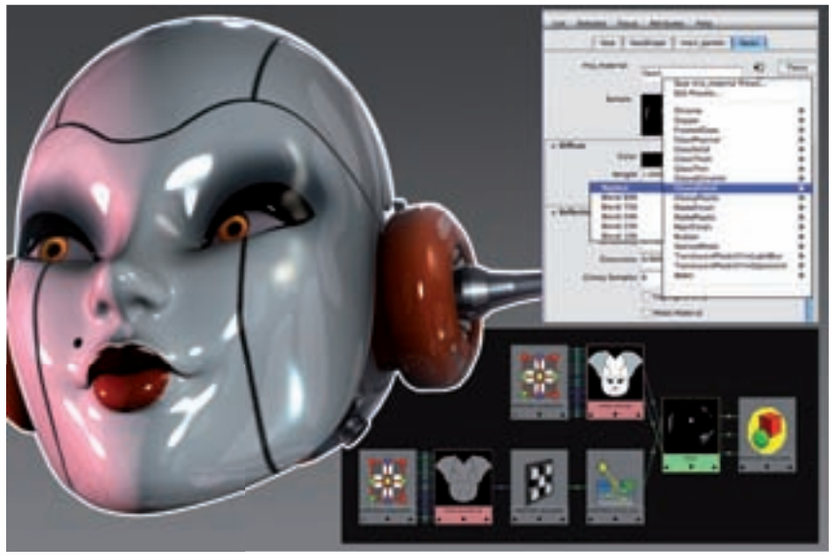
Using mental ray's mia_materials

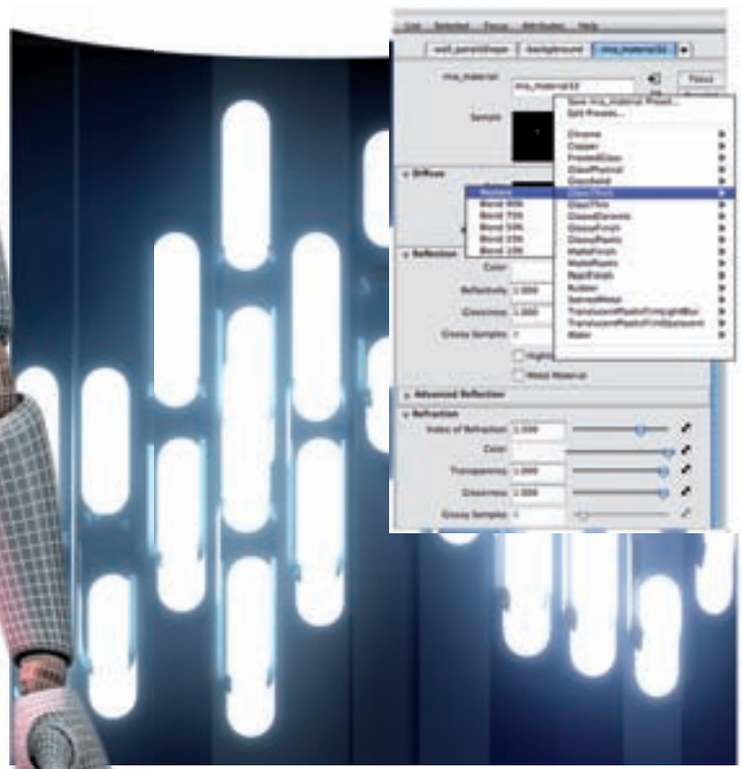
Select a glass finish to emphasise the futuristic environment

13 **The mental ray** mia_material comes with a wide range of presets, which are perfect for a whole host of architectural and design purposes. Each preset contains all the parameters necessary to achieve the look of an array of materials, including metals, plastics and glass. These provided an excellent starting point from which to begin refining the look of the robot's component pieces.



14 **In order to** locate the mia_material from the Hypershade work area, I then clicked on Create>Create mental ray Nodes tab (click and hold the Create Maya Nodes tab if this isn't already visible)>Materials. Once it was created and assigned to a model, the various presets could then be found in the shader's Attribute Editor (under the Presets tab). Finally, in order to achieve the highly reflective appearance of the robot's body panels, I selected the Glossy Finish Preset.

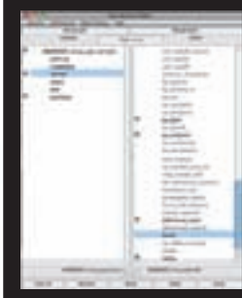
15 **For the background** panels, my aim was to create the impression of a futuristic neon environment, while at the same time keeping it fairly simple so as not to conflict too heavily with the foreground. After experimenting with a couple of the mental ray mia_material presets, I settled on a glass finish, behind which I placed several incandescent panels. I selected these as they would provide an interesting effect of refracted light.



Mapping mysteries

Colour maps can be assigned to mia_materials in the same way as normal Maya shaders by dragging a texture node onto the material in the Hypershade work area (then selecting the default connection). However, in order to get Bump maps to work, it is first necessary to create a misss_set_normal node (found under Materials in the Create mental ray Nodes tab), which must then be connected to the material in the Connection Editor (this can be opened by clicking the new node onto the mia_material and selecting Other...). Then the Normal channel of the misss_set_normal node must be connected to the Bump channel of the mia_material. This is achieved by simply clicking on the output and input channels in turn and hitting the Make button.

Next, a Bump 2D node must be created (found under Create Maya nodes>General Utilities) and connected to the misss_set_normal using the Connection Editor again. This time, the Out Normal channel of the Bump 2D must be connected to the Normal channel of the misss_set_normal node. Now a Bump map can be assigned to the Bump 2D node in the normal way.



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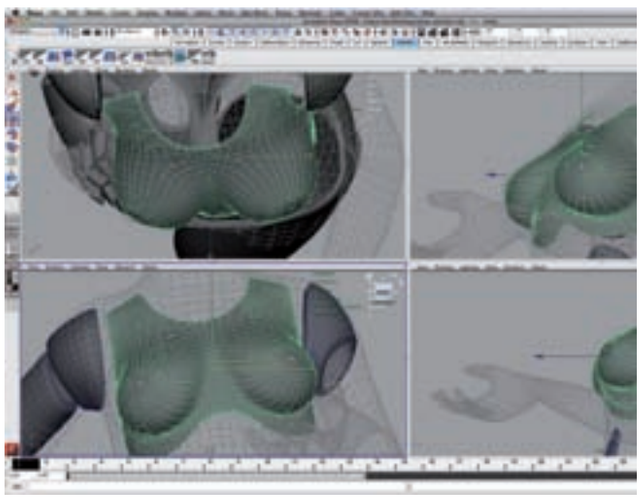
Pose the character and light the scene

Using ZBrush Transpose to create a template reference pose

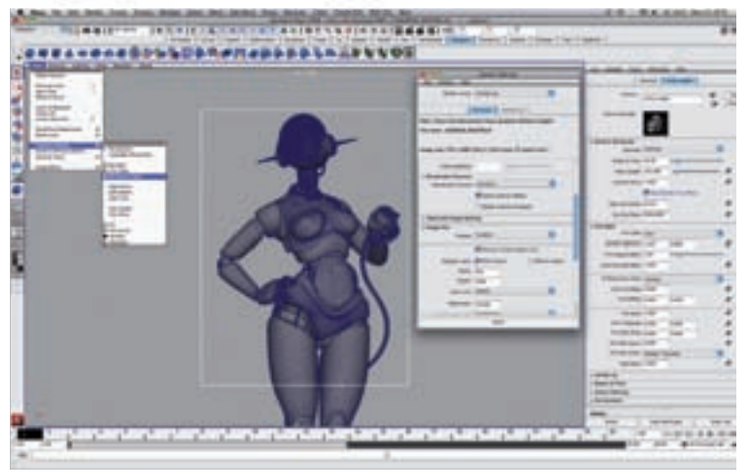
16 **I used ZBrush's** Transpose tools to pose the robot, as these produce pretty fast results without the need to laboriously rig a character. I decided that as the purpose of this project was to create a just a single image, rigging wouldn't be necessary. For this, I posed the whole female body mesh created earlier in the project to use as a template, which could then be imported to Maya and used as a guide to position the separate parts. While ZBrush's Transpose Master plug-in allows for posing a character consisting of multiple subtools as a whole, this can often result in subtools distorting in the process, which is less of an issue when posing organic models, but since I wanted the robot's components to maintain rigidity, I considered the template approach to be more suitable.

17 **By selectively masking** areas one at a time, I began by repositioning the legs, followed by the torso and then the arms and hands. Since the posed mesh would only act as a template, it wasn't necessary to pay too much attention to perfecting joints, etc. The idea was to simply achieve a suitable pose, while retaining the proportions of the original model.

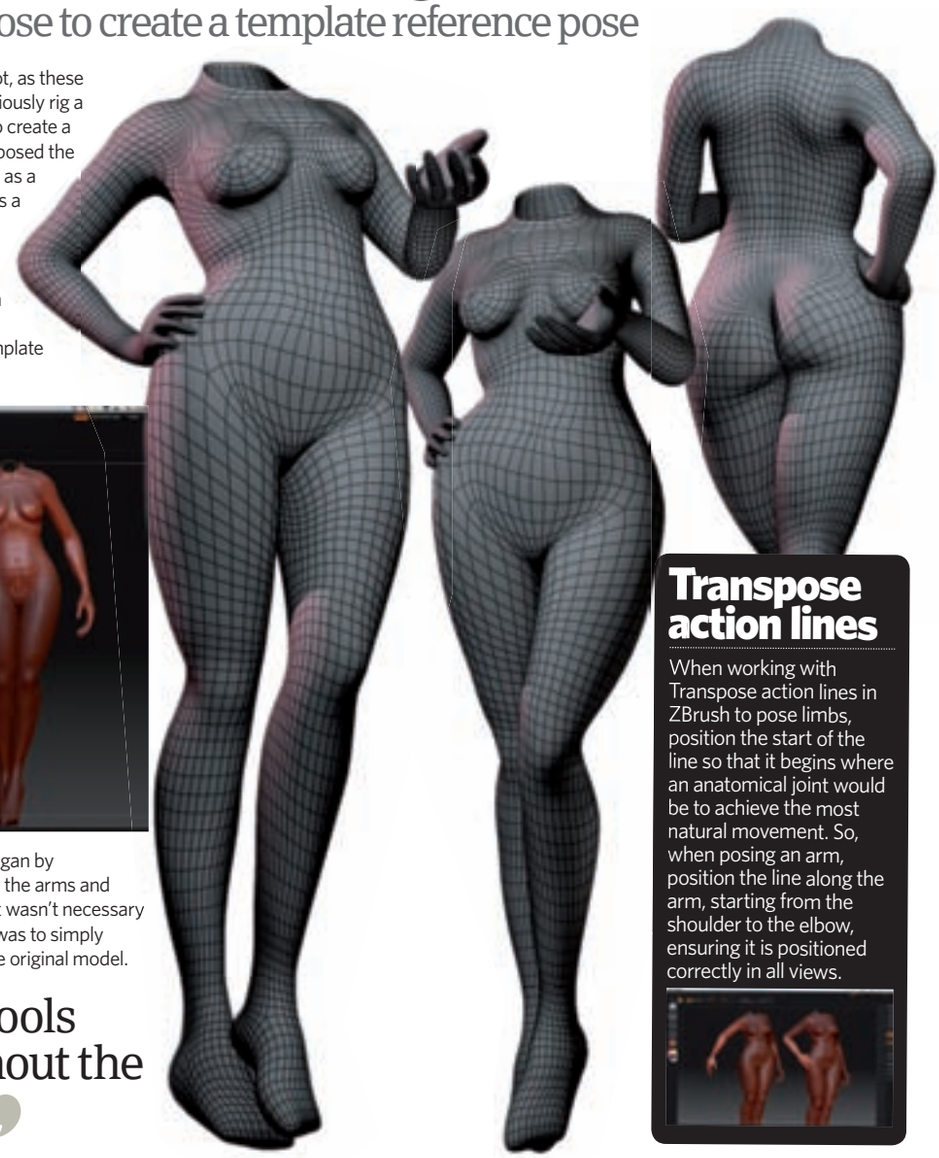
> "ZBrush's Transpose tools produce fast results without the need to rig a character"



18 **Then the posed** mesh was exported to Maya and templated, allowing the robot's component parts to be accurately positioned using Maya's orthographic views.



19 **Next, a new** scene camera was created. The Render Global>Common Image size (aspect ratio) was then set, and the camera's Angle of View and Focal Length attributes were adjusted to reduce the default wide-angle distortion. The camera's channel attributes were then locked into position, so I could begin the process of lighting the scene.



Transpose action lines

When working with Transpose action lines in ZBrush to pose limbs, position the start of the line so that it begins where an anatomical joint would be to achieve the most natural movement. So, when posing an arm, position the line along the arm, starting from the shoulder to the elbow, ensuring it is positioned correctly in all views.

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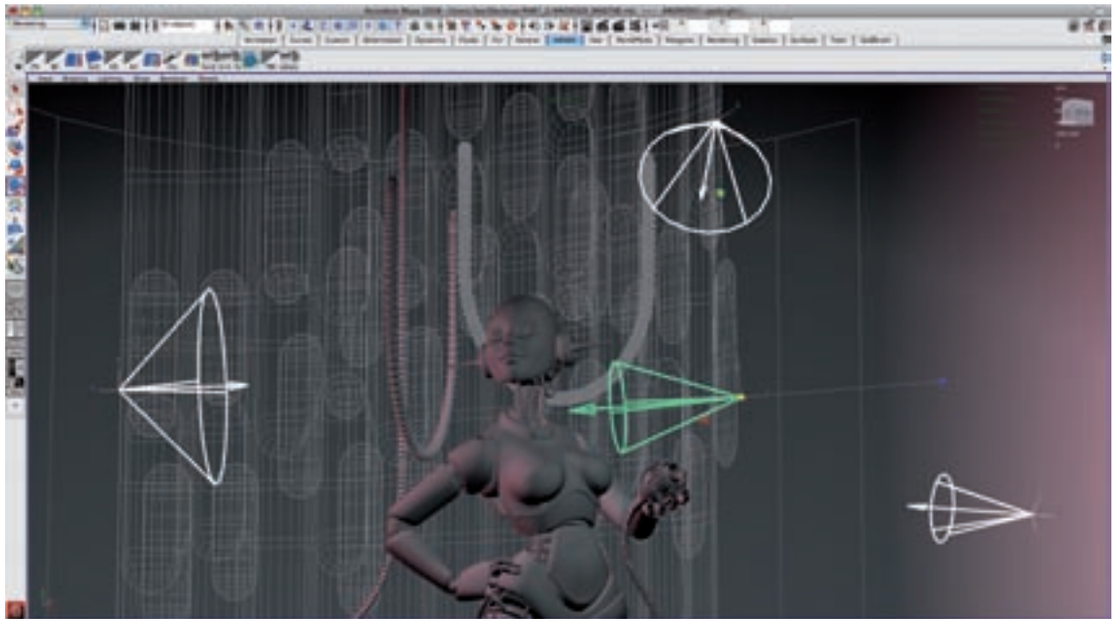
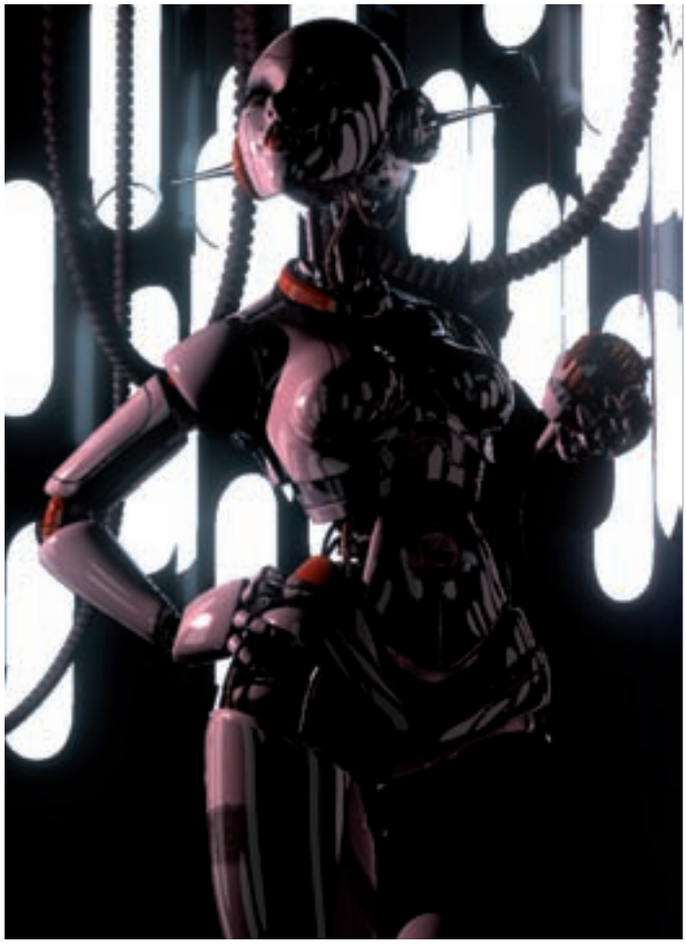
Lighting and rendering

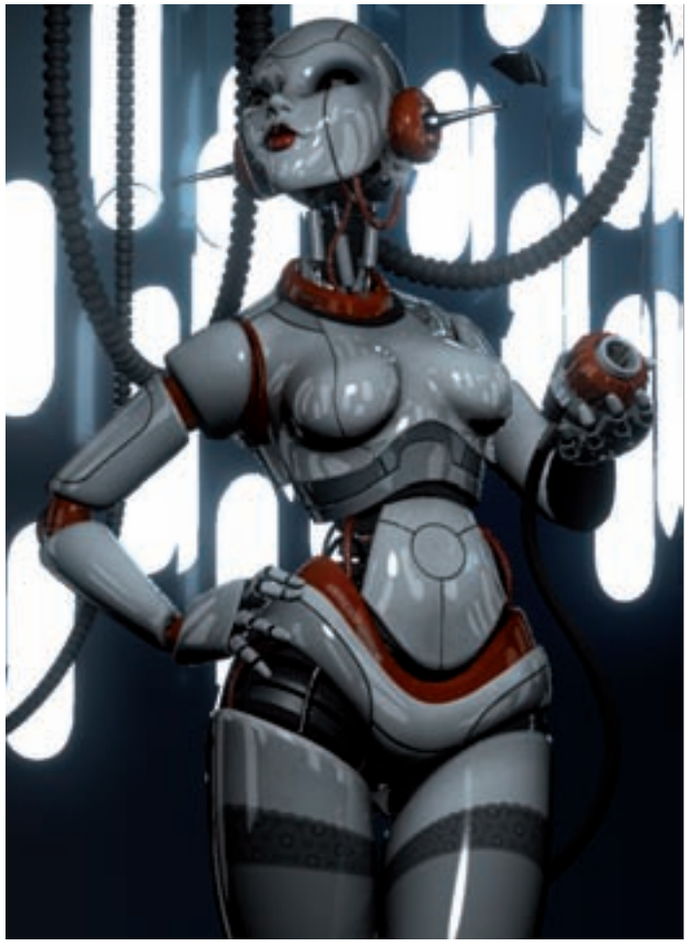
Apply lighting and reflections to the scene

20 **The lighting setup** for the scene was fairly straightforward, consisting of several Spot lights, a Key light, a number of low-intensity coloured Fill lights and one side Rim light. As each light was created and positioned within the scene, a test render was generated to ensure the desired illumination was being achieved, starting with the main Key light, followed by the various Fill lights and the Rim light. The reflections were achieved by mapping a large cylinder with incandescent lights.



> The lighting setup for the scene consisted of several Spot lights, a Key light, a number of coloured Fill lights and one side Rim light





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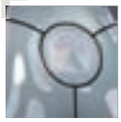
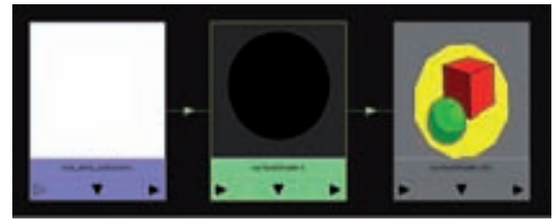
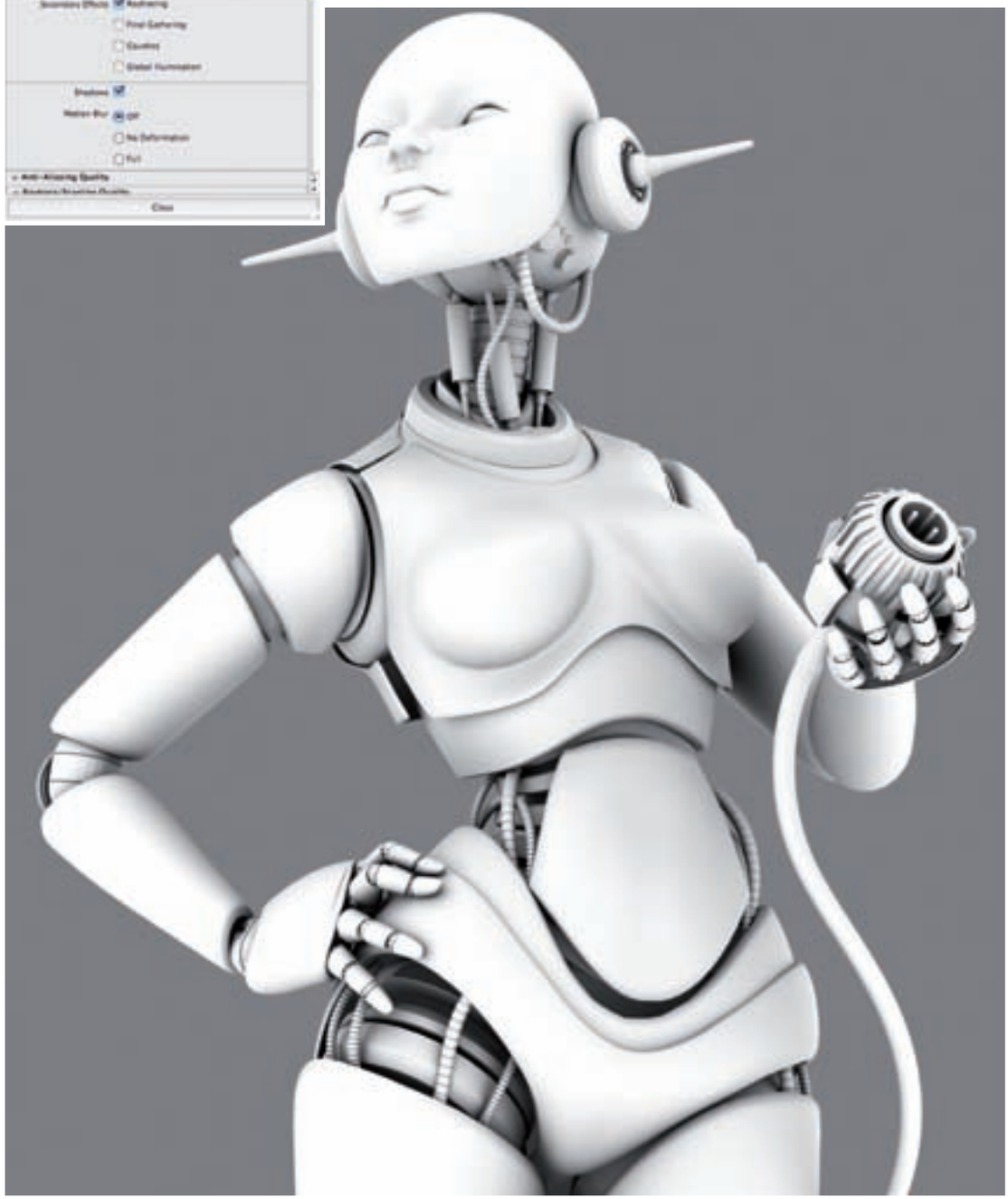


Main and Ambient Occlusion passes

Assign a shader to the model

21 **For the main** render pass, I set the Quality Presets to Production under the mental ray tab and then the Image Size to 3,731 x 4,961 pixels under the Common tab, which works out as slightly wider than A3 at 300ppi. The render time for the whole composition took roughly about two hours.





22 **In order to** accentuate definition, a separate Ambient Occlusion pass was rendered to be composited in Photoshop along with the final main render in postproduction. Ambient Occlusion is an efficient way of achieving a look of global illumination that emphasises detail by self-shadowing geometry in a scene (independently of any scene lighting). Areas surrounded by a large amount of geometry are rendered dark, whereas areas with less geometry will appear lighter. While mia_materials can be set up to include Ambient Occlusion, it is difficult to fine-tune the effect later. A separate pass could be more easily blended and tweaked in Photoshop.

23 **To set up** the scene for an Ambient Occlusion render, an AO shader was created and assigned to the geometry. First, a surface shader material was created (which doesn't feature any diffuse or reflective properties) in the Hypershade, under the Create Maya Nodes> Surface tab. Next, a mib_amb_occlusion (found under the mental ray Nodes>Textures tab) is connected to it by clicking and dragging onto the surface shader (using the default connection). The resulting shader was then assigned to the model (not the background geometry in this example, as this would not require the effect).

24 **In the Attribute** Editor of the mib_amb_occlusion material, Samples was increased to 256 to improve the quality and the Max Distance setting was raised to 50 (this is dependent on the scale of the model in the scene). Under the Render Globals window (Common), the Enable Default Light tab was disabled and Production Quality was selected under the mental ray Quality Presets.

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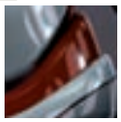
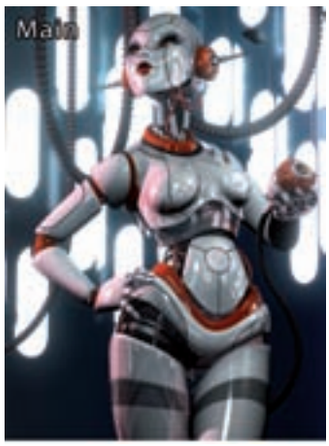


Compositing

Combining the renders in postproduction using Photoshop



25 As well as the main and AO render passes, I then created two separate passes: one featuring just the background and another for just the cables. These allowed me to tweak these elements independently, for greater control.

Using the AO pass as a base layer in Photoshop so that its alpha channel could be used to isolate the character from the background of the main image, I then copied and pasted the background render, followed by the cables then the main render.

> “Because the image was rendered fairly large, it was necessary to consolidate layers occasionally”

26 By selecting the Alpha channel from the render pass, the robot was removed from the main render by Cmd/Ctrl-clicking the Alpha channel thumbnail in the Channels palette, then inverting the selection and deleting the background.

27 The AO pass itself was then moved to the topmost layer and the background deleted, then set to the Multiply blending mode and the Opacity reduced to suit. A Levels adjustment layer was then applied to the AO layer for further control over the contrast of the shadows. In the Levels pop-up window, I checked the Use Previous Layer to Create Clipping Mask box. Further tweaking involved some curves corrections as well as the addition of a few extra Soft Light layers to tint certain areas and a Vivid Light layer to accentuate the glow in the eyes. Because the image was rendered fairly large, it was necessary to consolidate layers occasionally (saving each stage incrementally) to prevent Photoshop from becoming too slow.

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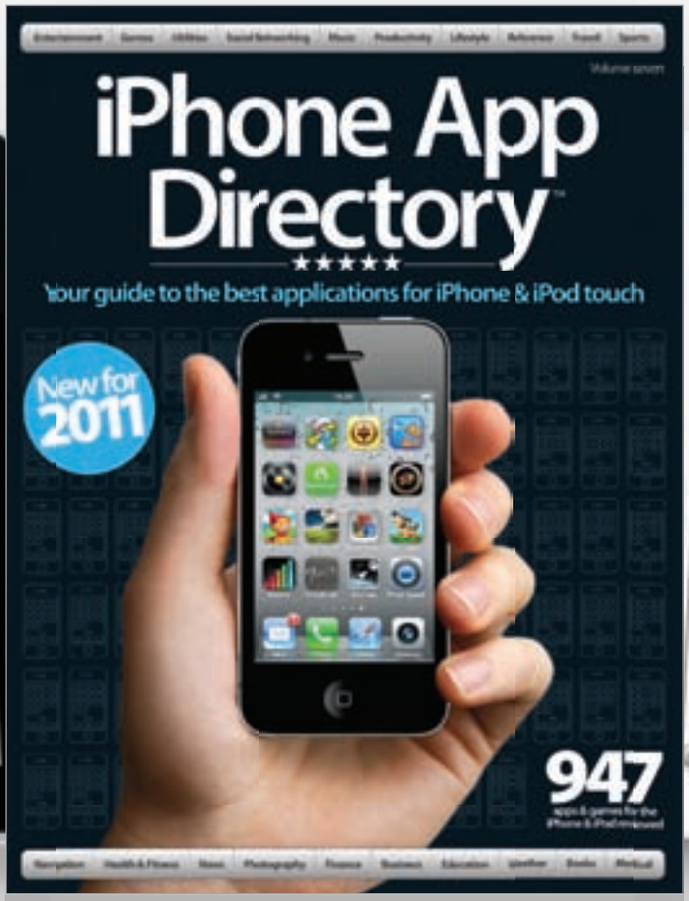
It's a jungle out there. Swing through it

iPad



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Software used in this piece

Carrara | Poser | 3ds Max | V-Ray

Integrate a Poser model into Carrara

Step by step

Easy-to-follow guides take you from concept to the final render

Artist info

Eliane Camargo

3DArtistonline

Username: Elianeck

Country Brazil

Software used Carrara, Poser, 3ds Max, V-Ray

Expertise Eliane specialises in Carrara 6 and Poser

To be or not to be 2009

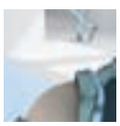
"I am fascinated with science fiction – all of my works are based around this theme. In this particular image, I tried to capture a sad feeling from a half-human, possibly from the loss of a loved one"

Eliane Camargo is a 3D enthusiast

Throughout this tutorial, I will demonstrate how to transfer the runtime model from Poser 6 to Carrara 6, as well as how to use shaders, morphs, HDRI illumination and Spot lights. It is very important to have all the details on hand inside Carrara instead of trying to find them in other programs or files.

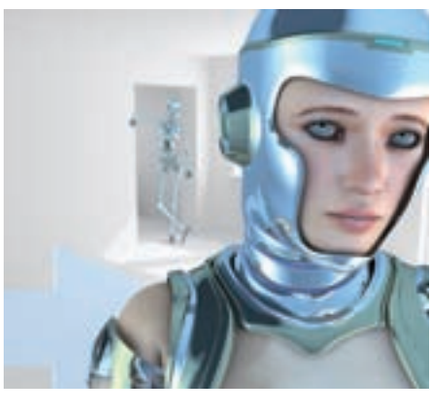
Initially, a concept needs to be in place, or at least an idea of the image to be created. Here, I used 3ds Max 9 with the V-Ray plug-in. V-Ray can create excellent light effects. I also used a free scene from **www.asdsf.com**. I used Victoria 4.2 from **www.daz3d.com** and clothes from the same site. The shaders, also free, can be found at **www.ruprechtl.com/downloads/carrarashaders/index.html**. Additionally, Photoshop can be used for any special touches after the final render.

The basic idea is to demonstrate the potential of Carrara to create and render a very realistic high-definition image without much knowledge of modelling.



Original ideas

Rough ideas of designing the model



01 **For this work**, I used two pieces of software together for the first time – Carrara and 3ds Max (although I still have some limitations on the latter). I opted to get a free scene from the internet and modified it using 3ds Max to get the tonality and lights that I liked. For the render, I used Carrara 6.

02 **This was the** original scene that I downloaded from the internet. It's extremely bright and clear, as well as free to the sides, so there is the possibility of deleting or moving objects in the scene. In this case, I deleted all of the furniture, as a clear room was the primary objective.

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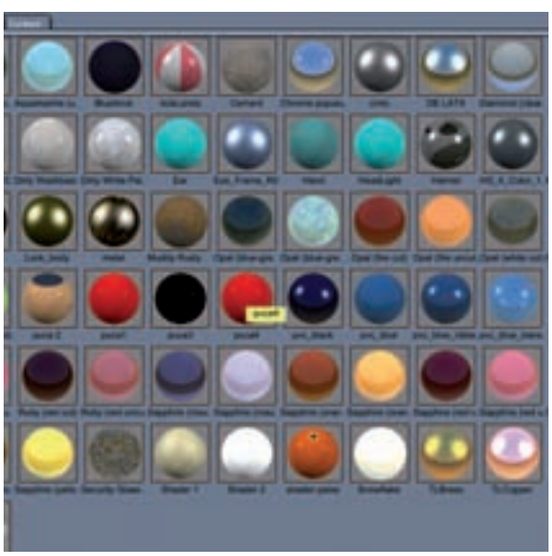
Modelling, Lighting, Rendering



03 **I used a** lot of shaders in my work, some of the default ones in Carrara and others that I downloaded from internet. I like to use shaders, as they give an image more life and are very easy and simple to use in any object.

04 **Open Carrara and** select Empty Scene. First, import an external runtime. With the imported runtime, click on the Content tab. The runtime inside Carrara works like Poser, with separated files for each category (Figure, Pose, Hair, Face, Props and so on). With the runtime inside Carrara, I could load the V4 model (**www.daz3d.com**)..

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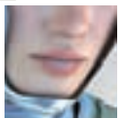


Posing

Importing the figure and setting it in place

05 **To see the** transparency and reflection, click on the arrow from the right side. Under Display Options, make sure that Transparency and Antialias are checked. The Reflection is at Default (always checked).This is very important, as it is the way to identify all the textures. Once you've selected Transparency and Anti-alias, select the View option and all the textures can then be seen. At the top right, click the last sphere to see the real texture that you are using.

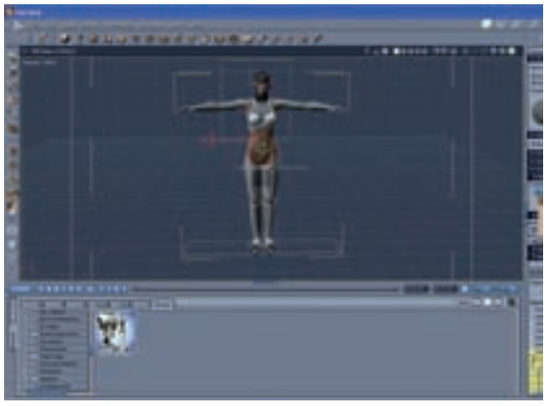
06 **You need to** put INJ Morphs++V4 in order to accept other morphs and textures, which works the same way as Poser. Under the View tab, go to Show Production Frame and click that to get a better idea of the area to be rendered. To put clothes on, select V4 and get what you need. This way, it all goes directly to V4. In this case, I used Call Bot Armor clothes from **www.daz3d.com**.

Workflow

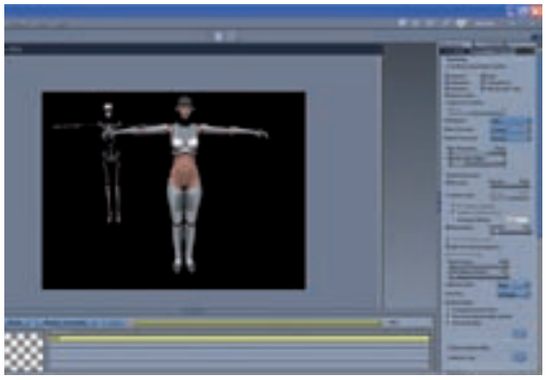
Textures, morphs or any characters are easier to change and modify in Carrara than Poser. Most of the objects also can be imported from other pieces of software, like 3ds Max for instance.

One of the main challenges was finding the right background for each work. Most of the time a background is rendered in 3ds Max, and the lights, colours and perspective get a bit more time dedicated to them than all the rest.

It's not too easy to get the right shader; until I got the right transparency, I did a lot of renders. Most of the time the shader settings can be used in different works, too.



07 **To put in** another character, I used the XCC-990 Fembot from **www.renderosity.com**. Keep V4 selected, as this way the character will appear in the same scene. After it is loaded, click on V4 Conform To and make sure None is selected. The new character will be separated from V4.



08 **Now the second** character and its skeleton are separated. For a quick render, using the Simple Lights default from the scene. Click at the tab from the right-hand side at Render. To get transparency from the images at the render, keep Light through Transparence, Interpolation and Sky Light checked from the right panel.

09 **To put in** more lights and change the background, keep Scene checked and options will appear to be used in the lights and background. In this case, I used a light package in HDRI from **www.daz3d.com/i/3d-models/-/gidome-portraits?item=8895&spmeta=ab&_m=d**. The lights used were #7. Use two clicks on Backdrop and leave in white to get more clarity at the work. Don't forget to delete the default lights from the scene. Choose a pose inside the runtime for V4. Don't forget to keep V4 selected on the right side.

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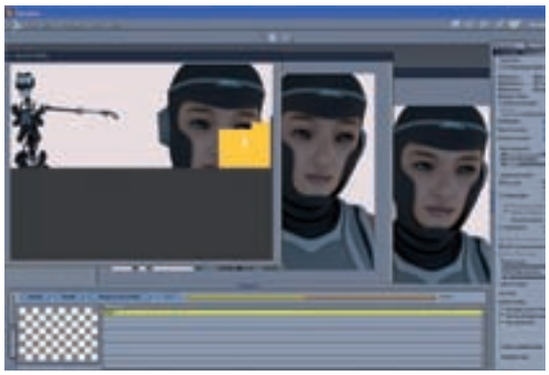


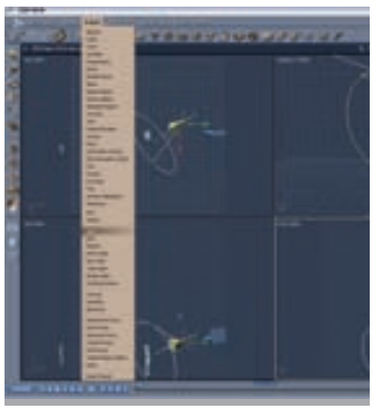
10 **Using the bar** from the left-hand side, you can move the scene. By clicking on any part of V4, you get the information on all the movements. With V4 selected, on the right-hand side's command menu you can change any morph or texture that you want to. Make some adjustments on the eyes from right to left. Make a new render, this time using the new lights (HDRI) to see the colour of the skin, as well as to check if it combines with the colours of the lights.

2 hours render time
Resolution: 3000 x 2217

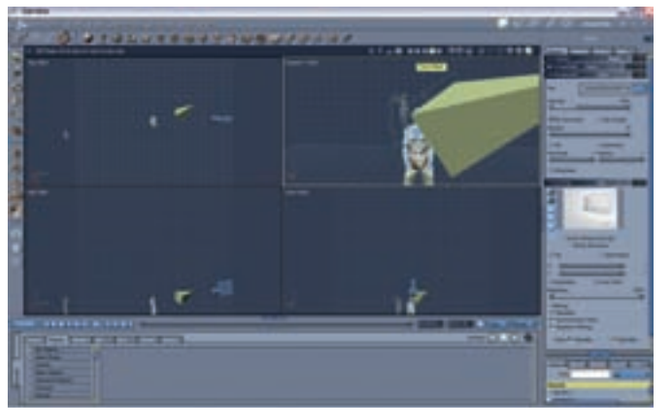
11 **In this case**, I worked with shaders from Carrara and others from **www.ruprechtl.com/downloads/carrarashaders/index.html** and **www.sharecg.com/v/20478/material-and-shader/PVC-Shaders-for-Carrara-6?division_id=11**. To use a shader as a texture, select the piece that you want, go to Conform To and leave as None. Click on the desired shader, then drop it where you want. With the skeleton, there's no need to use Conform To as it is separated from V4. You only have to use Conform To when one object is connected to another.

Lighting and textures

Making it shiny and futuristic



12 **To get more** brightness in the image, add a Spot light and move it from one side to another until you get the desired effect. In this case, the Spot light was placed on the right-hand side, while the colour was changed to blue.



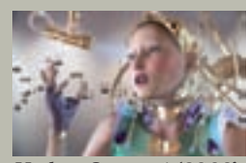
13 **The idea is** to use a clear and bright background, so render the file in 3ds Max with the V-Ray plug-in. The file was downloaded from **www.cg-blog.com/download-vray-light-settings-plugin.htm**. All the objects from the original file were deleted. To add the background to the scene, go to the right-hand side of the screen under Backdrop and save the image as 'background image' to use as a background. Alternatively, render it in Carrara.

14 **The arrow is** a detail placed between V4 and the skeleton. Use the default object from Carrara and a transparent shader on the arrow, as the idea isn't to attract attention to it, only to make a composition. Modify Anti-alias to get a clearer image, leaving the pixels at 0.5. Increase the Sky light to 199% to get more clarity and set the Lighting Quality to Best to get a better quality of light for the final render.

Artist Showcase

Eliane Camargo

My 3D life started with Poser, born out of curiosity, but when I found DAZ 3D it started to turn into something a bit more serious. I got in touch with communities that exchanged experiences, and then came Carrara 6. It lets me work easily with lights, and the render is fast, supporting objects from other programs.



Medusa **Carrara 6 (2009)**
I used shaders on this piece of artwork to get a different illusion; the lights bring out the gold more, while the textures help to get more intensity in the final work. Often, a little detail can change the whole perception of an image

Guitar **Carrara 6 (2008)**
In this work, I tried to demonstrate a rebellious side by using a little swimsuit. The hair gave a special touch on the message that I was trying to send. I used HDRI illumination and Spot lights to get more realism

Me and my car **Carrara 6 (2007)**
The details were pronounced by having no background. Just four or five elements can transform a normal image. The details were my main worry, but HDRI illumination and Spot lights can make the difference

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Creating a desert env

Desert Enviro 2009

Modelling, Texturing, Post-production

Software used in this piece

LightWave 3D

Photoshop

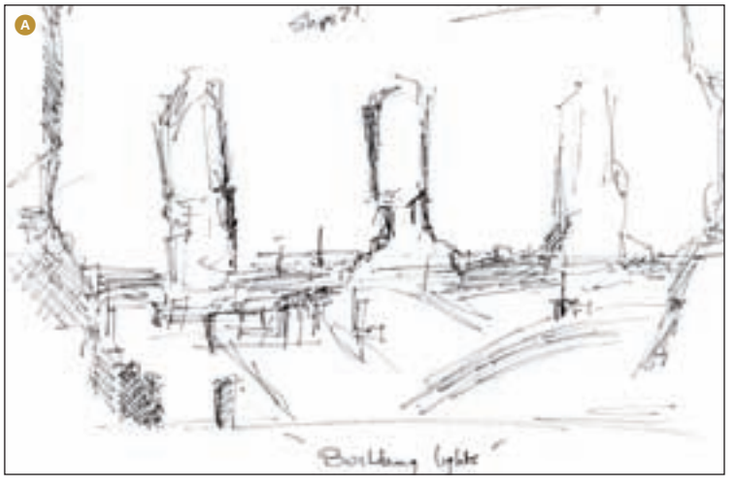
> Basically, this is a conceptual design for a desert-based space port environment sometime in the future

Neil MacCormack is a freelance 3D artist and concept designer

This piece is something I have wanted to do for a while, and hopefully from this tutorial you will get an insight into my workflow and work practices and how I go about producing my work.

For this composition, I have tried to include a mix of futuristic elements (buildings and ships) and yet also retain a historic feel to the landscape, allowing the viewer to recognise certain design elements and yet retain a feeling of believable fantasy.

I will go on to describe the key elements in the LightWave 3D section of the image, such as setting up the scene, lighting, basic texturing and the postproduction work in Photoshop of painting, more texturing, colouring and compositing, which can then be applied to any image you are producing. The techniques are not specific to this composition, but are a general set of rules that I apply to all areas of my work.



A Here is the final concept sketch with added notes on lighting and the time of day

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ironment

behind the scenes

3D artists explain the techniques behind their amazing artwork

Artist info

Neil MacCormack

Personal portfolio site www.bearfootfilms.com

Country Switzerland

Software used LightWave 3D, ZBrush and Photoshop

Expertise Neil specialises in the conceptual design of environments, vehicles, ships and cars, among others, with particular strengths in lighting and texturing

Constructing the environment

The modelling side of things in this project were not the main focus. The landscape was created in LightWave 3D then slightly deformed in ZBrush. For the other elements for the rock and buildings, I used some old, basic stock models that I then tweaked and remodelled to fit the look and size of the concept sketch. It's always good to remember what was going to be the focal point of the image (here, the main ship) and to keep the details restricted to this area. There isn't any point in having high-poly, high-detailed objects all over the scene when you wouldn't know that they existed in the final render.

So with this in mind, I spent most of the time modelling the ship using poly modelling in LightWave. I deliberately made the ship ambiguous in shape so it was difficult to see which was the top and bottom. This gave me a little freedom as to how the ship flew, landed and took off, etc, so I could find a position and rotation for the ship that would fit the composition.

> "There isn't any point in having high-poly, high-detailed objects when you wouldn't know they existed in the final render"

What is important is to create the mood and feeling of the hot, dusty futuristic landscape and not have to worry about technical details at all, as this is only a conceptual piece.

03 Wireframe scene layout

Here, you can clearly see the way the scene is set up C. You can see the geometry more clearly on the 3D objects and notice the poly count is quite low for the whole scene. I remodelled some stock models for the rocks and buildings to save time, as I wanted to concentrate on lighting and texturing in the 3D part of the image.

01 Concept sketch

Generally, I start all my works with a basic concept sketch of the composition and how I see the final image taking shape A. I think it's much better to have this down on paper in front of you before starting. I find when working only from my mind that things take longer and are more prone to being changed and not necessarily for the better. As you can see, I have little skill with a pen so it's also important to make notes and reference for later use.

02 Clay render

As you will be able to tell from the clay render B, the modelling aspect of the piece isn't really that important.

B A clay render out of LightWave to show the low-poly geometry and scene setup

C A camera view showing the wireframe scene layout with all of the elements in place

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04 Ship modelling

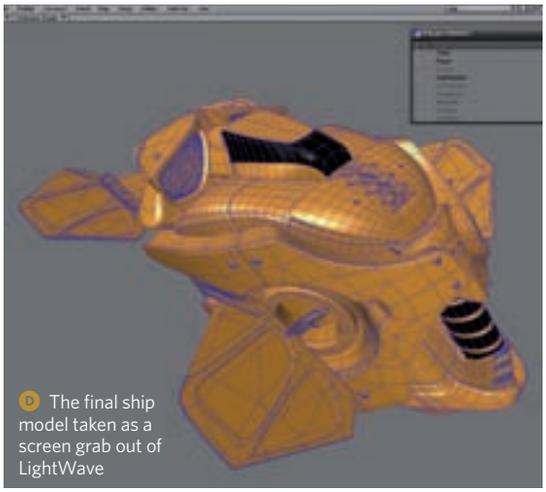
You can see from the screenshot that it is difficult to make out which way the ship would fly D. I wanted the ship to be able to fly upside down and to rotate from top to bottom depending on the terrain it would be in.

05 Ship modelling

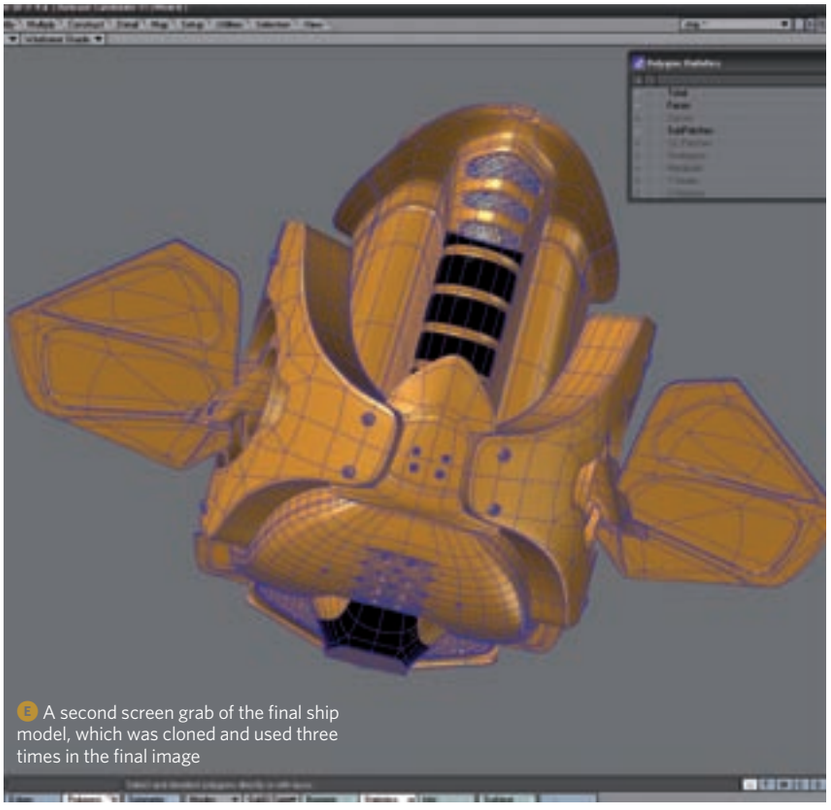
No special modelling techniques were used for the ship. I started with a simple box and, using LightWave's Smooth Shift, BandSaw and Extrude tools, I ended up with the final model E. I probably ended up with more detail than was necessary given the final image, but as I was so happy with the end model I thought I could reuse it in future images.

06 Landscape modelling

The landscape was a very basic poly square that I then deformed in ZBrush using the Zadd and Zsub sculpting tools, and then exported back into LightWave for final tweaking. There was no need for high-res geometry in this model as I knew most of it would be hidden F.



D The final ship model taken as a screen grab out of LightWave



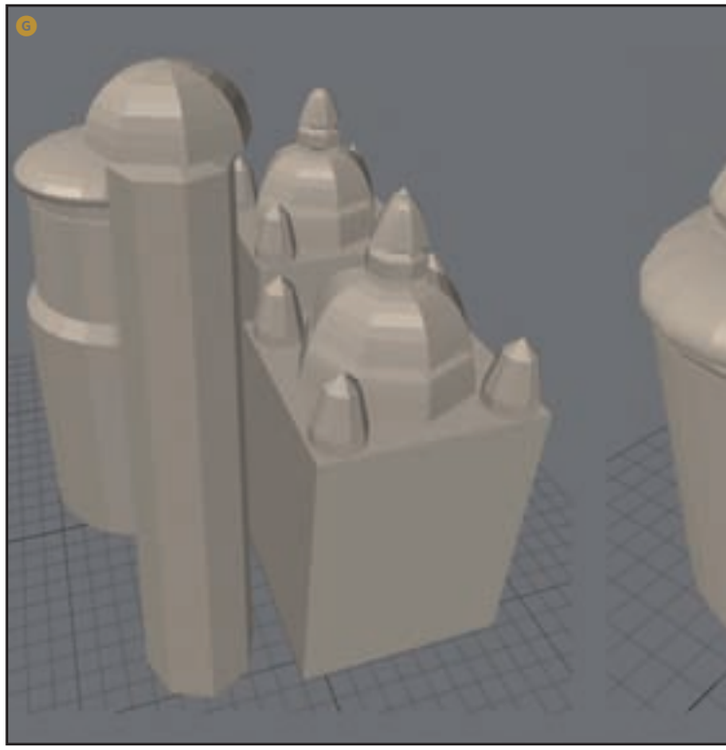
E A second screen grab of the final ship model, which was cloned and used three times in the final image

Lighting, textures and rendering

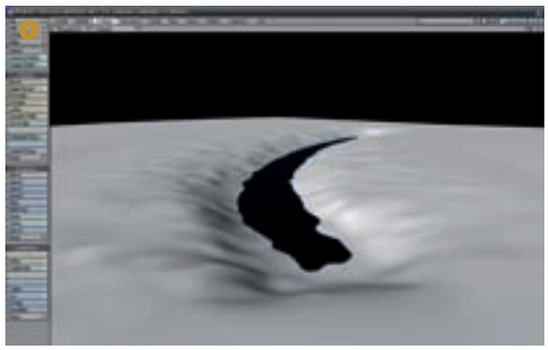
The most important part of this project was the lighting. I had made notes on the time of day and the position of the sun, etc, so I knew the basics of how the scene would be lit.

I rendered the image using the FPrime renderer for LightWave, as I was able to get a slightly softer feel to the image rather than using the native LightWave render engine. The final image was 4,665 x 2,700 pixels.

The Photoshop work brought all the elements together, and I spent a while on texturing and recolouring the image. I painted highlights on some elements, added shadows on others and added textures to the image in general. I tweaked the Brightness/Contrast and finally added some fog, mist and dust.



G The scene was filled with very basic objects such as these to represent buildings and rocks



F ZBrush screen grab showing the basic landscape object

07 Filling the scene

To fill up the rest of the scene, I used some very basic objects made from primitives and old stock models. The objects were then cloned throughout the scene to keep continuity between the buildings and landscape. Also, that way I could move objects around to find a balanced composition G.

08 Light the scene

Next, I added my background (which was quickly painted in Photoshop) to the scene and positioned my Area light where the sun was and set it to the same colour value that I had in the background H.

I chose a soft reddish-grey colour for the shadows and enabled Radiosity to simulate the Bounce light, which happens in daytime lighting scenarios. I used the same sky background image I had painted as my HDRI map to ensure the Bounce light had the correct colour values and tweaked the intensity until I was happy with the result. The background fog also added to the realism of the scene as

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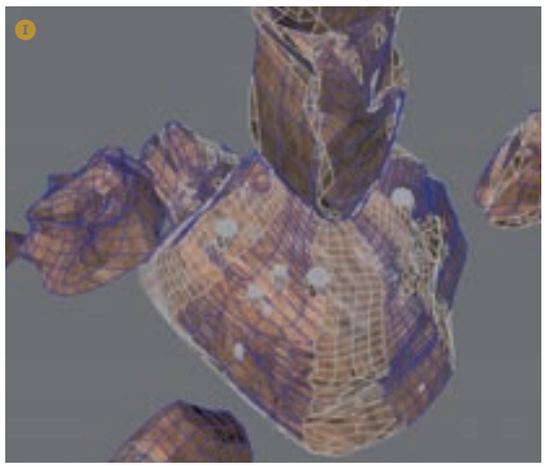

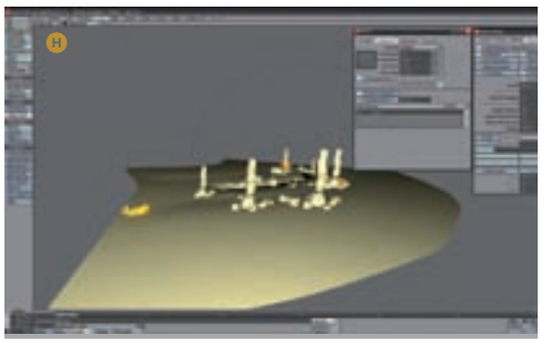

outdoor scenes generally have a lot more haze and atmospheric elements than people realise.

09 Texture the elements

Creating the textures for the objects wasn't too difficult. I would use tileable image maps that I created in Photoshop and map them to the objects using cubic mapping, ensuring all of the object was covered without stretching the texture. Each rock object was a clone of the other so I had no need to create new textures for each object I.

10 Texture the buildings

The same approach applied to the buildings, except I knew they would be only small in the image so I didn't care about texture stretching or making UV maps J. Again, I used a simple mapping technique to apply the textures over the objects, while the objects were cloned throughout the scene.

11 Texture the ship

The ship texturing was principally the same technique as the other objects K . I used some metallic texture maps for the body, mapped the same way as before. The windows, vents and grills on the ship were hardly textured at all. A simple reflective shader with a high specularity value was enough to portray a metallic feel.

12 Ship texture maps

All of the background and rock textures were made by hand in Photoshop, however, for the ship I decided it would be easier to use a downloaded metal texture for the final texture map. This I downloaded from www.cgtextures.com, which is a great resource for textures and reference L.

H View from the light source on the 3D scene. You can see the Radiosity and fog settings in the floating windows

I Screen grab of one of the rock elements

J Screen grab of one of the building elements complete with texture map

K Screen grab showing the textured elements on the ship

L The final image map of the ship texture

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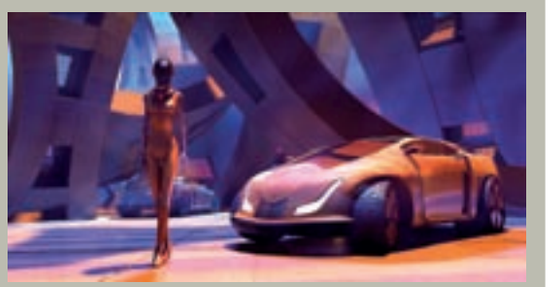
Artist Showcase

Neil MacCormack

I am a 35-year-old freelance 3D artist and concept designer. I am originally from England but now settled and working out of Geneva, Switzerland. I spent many years working in advertising and graduated from university with a Computer Science major. My style is postmodernist Neo-Futurism meets sub-grunge nonsense with a splash of sci-fi. I like to get away from work by enjoying music, sports and films.



Autoroute **3ds Max, LightWave 3D, Photoshop (2009)**
An image born out of the desire to fuse architectural elements with futuristic cars and a hot lady

2050 **3ds Max, LightWave 3D, Photoshop (2008)**
A conceptual design of how a city may look in the year 2050. A lot of matte painting techniques were used for this image, as to texture every single object would have taken far too long

Landed **3ds Max, LightWave 3D, Photoshop (2009)**
Another image created using the same ship as was used in this image. Again, the 3D and Photoshop parts are created using the same techniques and workflow as described in this tutorial

Textures

Texturing the objects was again simplified by the fact I wanted to do some additional texturing in Photoshop. I used simple rock textures for the landscape elements and metal image maps for the ship. I didn't want to have to waste days creating UV maps for every element, as I knew that level of detailing wasn't necessary.

M The final background image and the landscape texture, which would be projected onto the landscape geometry

N The tileable rock image pattern created in Photoshop

13 Texture the landscape

To texture the landscape, I used the image from the background as a texture map for the landscape. I could then project this image onto the landscape. This technique is common in matte painting and allows for more realism rather than modelling or texturing each rock M.

14 Hand-painting texture maps

To paint the rock textures, I started with a simple rock photo from my texture library and then used the Photoshop offset filter to make it tileable. I then began cloning parts of the image to other areas to fill in the pattern and erase the creases. I knew that the other textures would be added in postproduction so all I needed was a basic pattern N.

15 Paint the sky

Next, I started painting the sky using some custom brushes and also some downloaded brushes (thanks to Barontieri) in Photoshop. I chose some colour values from existing reference pictures I had and laid down some basic colours and shapes. I added in the horizon that I would be matching my camera to in LightWave and then finally the sun and the top gradient O.

O The final sequence of the sky painting. I used some realistic sky images and loose Photoshop painting to get the final image

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Photoshop work

Postproduction work – either in Photoshop for still images or After Effects, for example, for animations – allows the artist to have greater control and freedom over the final image. Especially for a project like this, where I wanted to have a specific grungy feel to the image, which I knew was not going to be possible to achieve in any native 3D package.

Normally, different render passes are used and then layered out in the postproduction process to allow you change shadow values or fog depth, for example, without having to rerender the whole image. For this project, however, I knew that wasn't going to be needed as I wanted to paint over the image, giving it a looser, more stylised look.

S The two filters applied to the flattened image. Save this version under a new name to keep your layered image intact

R As you can see from the image, the final render out of LightWave and the final image after the postprocessing process are quite different

Rendering

The rendering process itself in this image was a fairly simple process. Once the fog levels and lighting were done in LightWave, I could just set FPrime to render and leave the machine for a day. FPrime will render and refine the image indefinitely until it's manually stopped, so I could leave it as long as I wished. You can open the render while the image is still rendering to check on the progress, which is very helpful in cases like this.

16 Postproduction painting and Photoshop

I brought the final render into Photoshop and started to work on recolouring the image, changing the brightness and contrast to my liking and then adding in some extra textures. I used the Faux Finish Brushes for this work and some custom brushes to add the extra fog and mist to the landscape and sky. The people in the foreground and the building lights help to give the correct scale of the image P.

P

17 Photoshop layers

It's important when changing colour values and contrast, etc, to use adjustment layers instead of changing the original render, as these layers can be turned on and off or changed without having to rerender anything.

I overlaid some colour maps on the rocks and ship to bring out the colours more and highlight the parts of the image I wanted the viewer to focus on. The yellow Overlay layer completes the overall mood and final look Q.

18 Rendering

Due to the size of the final render and the radiosity, it took around 28 hours to render, which I don't mind as it ties my computer up for at least a day and gives me an excuse to leave the work behind and come back to start the postproduction process with a fresh perspective.

> "Postproduction work – either in Photoshop for still images or After Effects, for example, for animations – allows the artist to have greater control and freedom over the final image"

Q

The FPrime renderer for LightWave handles radiosity and volumetrics (in this case fog) in a slightly different way, and after testing with both I decided the FPrime solution had the softer feel R.

19 Final steps

The final steps in Photoshop were first to flatten the image, then sharpen the image and then add the Noise filter S. Saving this file as 'COPY' to keep your original layered image intact is also a good move. I believe that the two filters give the image a slight film-like quality and mimic how a real film camera may have captured the scene.

28 hours
Render time
Resolution:
4,665 x 2,700

R

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Lighting
Lance Hitchings
www.hitchingsdesign.com

Lance is our Maya master and in this issue he tackles the subject of specular light blooms. Get ready to start building a shader network

Characters
John Haynes
zugok@sbcglobal.net

John works on characters for games at Sega in California. In this issue he explains how to create realistic eyes and avoid the dreaded dull stare look

Specular light blooms

"Is it possible to create specular light blooms in a 3D render, and if so, how?"

Christian Stannits
Frankfurt, Germany

A

A specular bloom is a photographic effect that occurs when a specular highlight is so bright that it causes a glow or halo to appear in the image. This technique can be very effective in creating mood or emotion in an image.

3D artists can utilise this same moody, atmospheric effect by taking advantage of the power of the Ramp texture to drive the glow in your material.

B

01 The One Ring

To demonstrate this technique, we're going to create an image of the One Ring from *The Lord of the Rings*. We've created a simple gold texture, which will reflect the flames in the background. Without a glow, the image of the ring isn't particularly emotive A. With the Glow Intensity attribute of the blinn material turned to only 0.25, the glow totally overwhelms the image B. This may work for a molten ring, but it's not the look we're going for here.

02 Build the shader network

We're going to use a Ramp texture to selectively map the specular highlights to the Glow attribute. We'll start by connecting the outColor attribute of the blinn to the vCoord attribute of the Ramp C. You'll need to use the Connection Editor to accomplish this. Open the outColor attribute to expose the outColorR, since you can't connect the actual outColor into the vCoord. You'll also need to open the uvCoord attribute to expose the vCoord. Select outColorR and vCoord to connect them.

Since we're plugging into the vCoord, we need to make sure that V Ramp is selected as the Type. Next, we need to build the Ramp. The colour at the top of

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growing community at www.3dartistonline.com

Architecture
Ryan Knope
info@ryanknope.com

Joining the panel this month is architecture and 3ds Max expert Ryan Knope. In his first Q&A he tackles the problem of re-using building elements

Texturing
Daniel Lovas
http://lovas.cgsociety.org/gallery/

Daniel is a talented 3D artist who specialises in both CINEMA 4D and sci-fi images. This issue, he explains how to add grungy textures to spaceships

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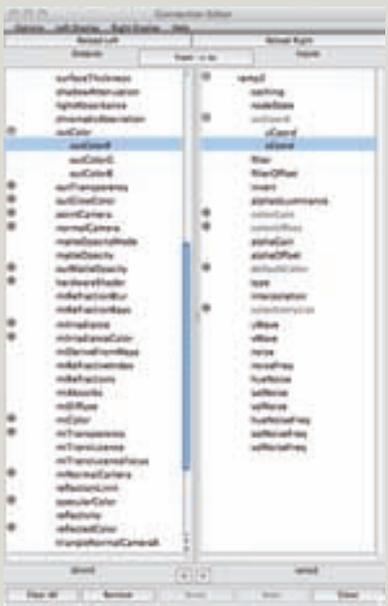
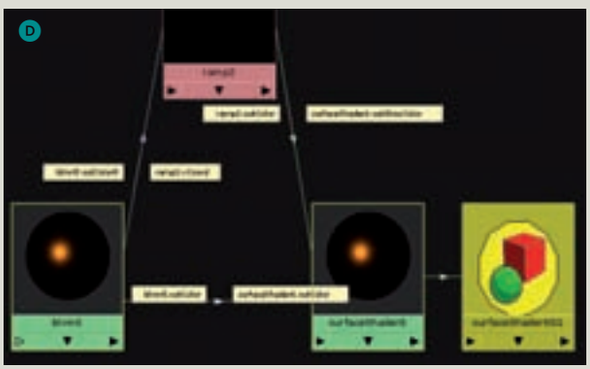
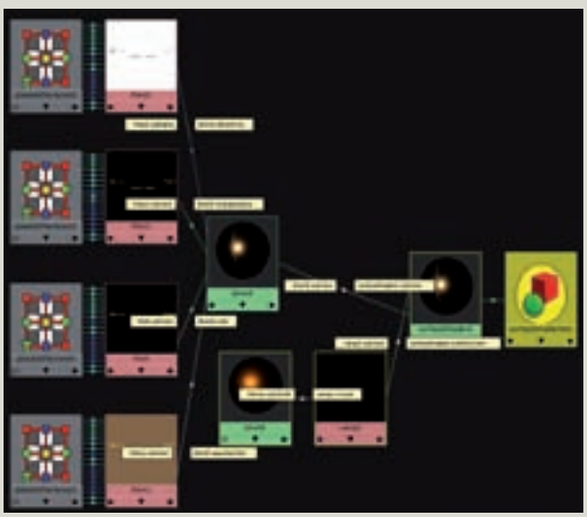


C

E



D



F

the Ramp determines both the colour and the intensity of the glow. The lighter the colour, the more intense the glow. The distance the second black colour is from the top determines the range of brightness (coming from the blinn) that is included in the glow.

If we plug the outColor from the Ramp back into the Glow Intensity attribute of the blinn, we'll get a cyclical error. We will get around this by using a surface shader. By plugging the outColor of the blinn into the outColor slot of the surface shader, all of the blinn's material attributes are passed directly to the surface shader D. Applying the surface shader to our ring will now produce precisely the same effect as applying the blinn to the ring. We will now create our bloom effect by plugging the outColor of the ramp into the outGlowColor of the surface shader.

03 Add the inscription

When we render our image, we get a fantastic specular bloom that appears around the specular highlight. We can control this bloom with the blinn's Eccentricity and Specular Roll Off attributes, as well as by adjusting the colour on the Ramp.

However, if we crank up the reflectivity and add the glowing Tengwar inscription, the added highlights cause the glow to overwhelm the ring once again E. To get around this, we will need to create a second blinn to control the Ramp.

04 The final workaround

We'll create a second blinn that is identical to the first, with two exceptions. First, none of the Texture maps that describe the inscription will be connected to the second blinn F. Instead, it will use colours that are identical to the background colours for each map in the appropriate attribute. Second, reflectivity will be completely off. This second blinn is now connected to the vCoord of the Ramp, just as the first blinn was.

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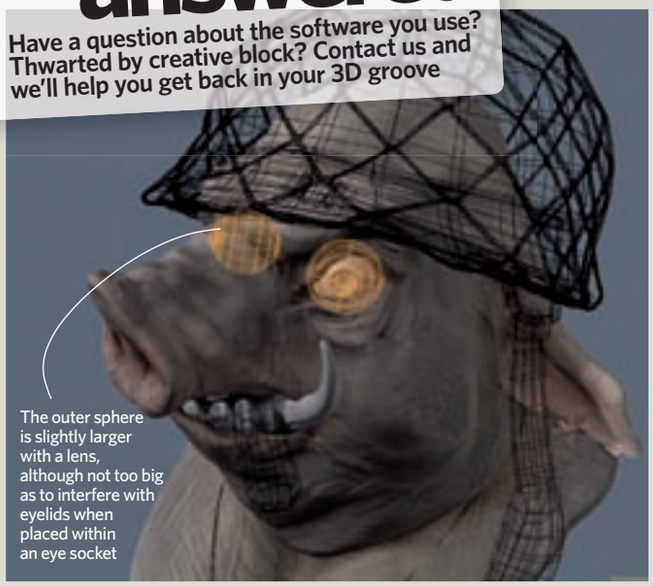

The outer sphere is slightly larger with a lens, although not too big as to interfere with eyelids when placed within an eye socket

Even in a shadow the iris is catching light, in addition to the reflective light on the lens that adds life and interest to an image

Modelling eyes

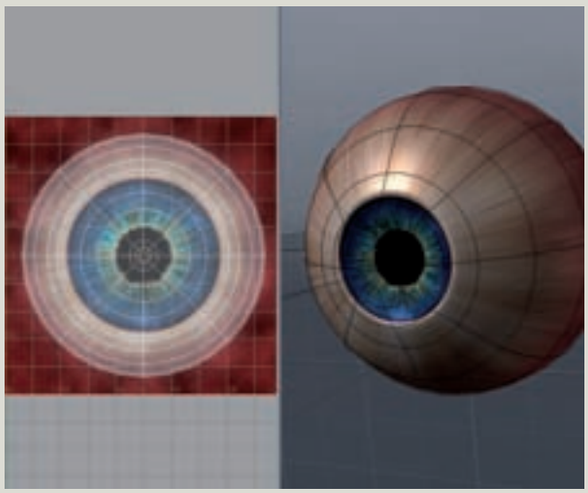
"How do I go about modelling eyes to make them look realistic and not have that fixed stare that singles out really bad work?"

Luis Gonzalez Madrid, Spain

The eyes are often referred to as the windows to the soul, so to get a realistic and lifelike look, the coloured iris needs to catch light and the lens should reflect a few light sources or shapes. It is best to model an eye similar to a real eye, with a slight bulge for the front lens, an inverted or depressed area for the iris and the hole for the cornea. In addition to a proper shape, the surface of the eye needs to use various textures and materials to get a proper lifelike look. The materials for the sclera will benefit from very slight subsurface scattering to give it a very slight translucent look, while the lens area need to catch the light, almost like metal does, over the coloured area. The inner cornea should not catch any light and always remain black. Overall, the material for the lens should look wet and reflect the light sources with getting blown out with subtle reflections of the environment, horizon, etc.

When setting up an eye for rendering, it is important to provide an environment image with bright point of lights and or use a simple card shape to give the eye a slight reflection. It is the reflections and the way the iris reflects light that give life to the eye; larger square reflections will work very well.

01 Start by using two separate polygon sphere shapes. It is best to create the eye using a sphere with the end pole facing forward. The edges can then be adjusted to form the iris and cornea with little effort. The outer sphere will have a light bulge representing the lens that covers the cornea. Pay careful attention to the proportions, as the iris will be roughly half the size in relation to the sclera.



02 Set up the UVs so the iris and cornea use the most pixel space projected from the front, as that is the area with the most detail. The side and edges of the eye are less detailed and visible, so will not need as much pixel space. There's no need to worry about the back of the eye, as it will never be seen. The basic eye will need a diffuse colour layer and specular texture, reflectivity mask and maps for some slight subsurface scattering and veins on the sclera.

03 Light is the most important part. Set a Key light that will provide the iris with good colour reflection and use a second light or shapes to provide the lens with reflections. It is the reflections in the eyes that provide most of their lifelike illusion. Adding an environment image will help to add in smaller, more subtle reflected shapes.

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Variation in buildings

"How can I reuse parts of buildings to save time but prevent it from looking completely repetitive?"

P.W. Johnson Bristol, UK

On the Disc
3ds Max file on cover disc

To save time on building construction, I have a few methods that I often deploy. For buildings in the distance, I tend to use generalised structures that can be scaled and rotated to fit the desired skyline. Also, apply facades to each model quickly with box UVW mapping. With this you can change the look of your buildings without having to do hardly any modelling edits. One helpful place on the internet to find great building facades is www.cgtextures.com.

When creating detailed buildings, one important thing to keep in mind is to keep a library of any possible elements you may be able to reuse, such as balconies, patios or even entire floors, so that you can mix and match.

Remember that changing the floor level count, general material colour and the angle that it hits the camera are the quickest ways to combat against seeing the same building over and over.

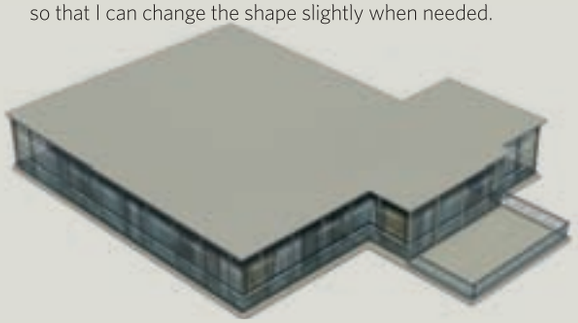
Distance buildings

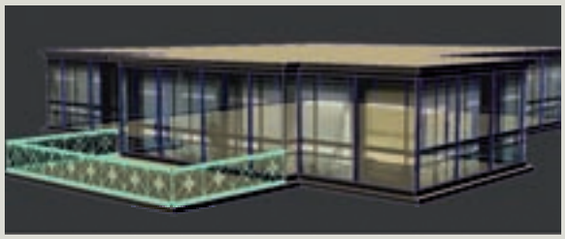
Create a one-floor massing and instance it up to your desired floor level. Create a basic roof, and apply a building facade material to each level. Now you can add variation to the windows to make them more realistic and less repetitive (in Material and in Model). Often, changing window sizing and material is enough for towers. For buildings with less floors, I tend to use the same balcony or outside defining elements but in slightly different locations along with material differences. The Greeble plug-in can be very helpful to build a quick city massing in the distance, but in no way is it a replacement for detailing.

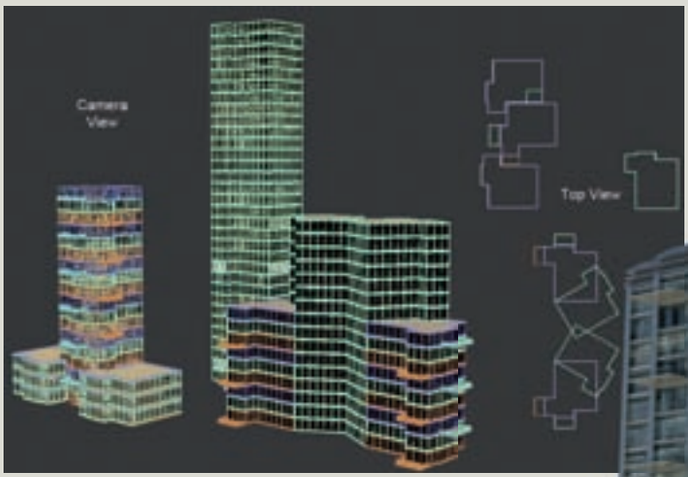
New windows

For buildings close-up that are being built at the photorealistic level, bear in mind that having each element in a library for future use is one of the greatest investments of any 3D artist – everything from materials to models to finishes and textures. For example, create several window types over different projects and all you need to do is cut holes in your building shape and instance them in the proper location.

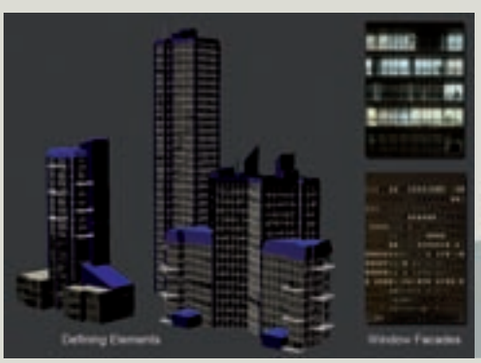
The same ideas apply with what's stated for the distanced buildings. I start with a model of one floor and build it up as high as it needs to be. I tend to copy the floor massings and cut them into more segments so that I can change the shape slightly when needed.

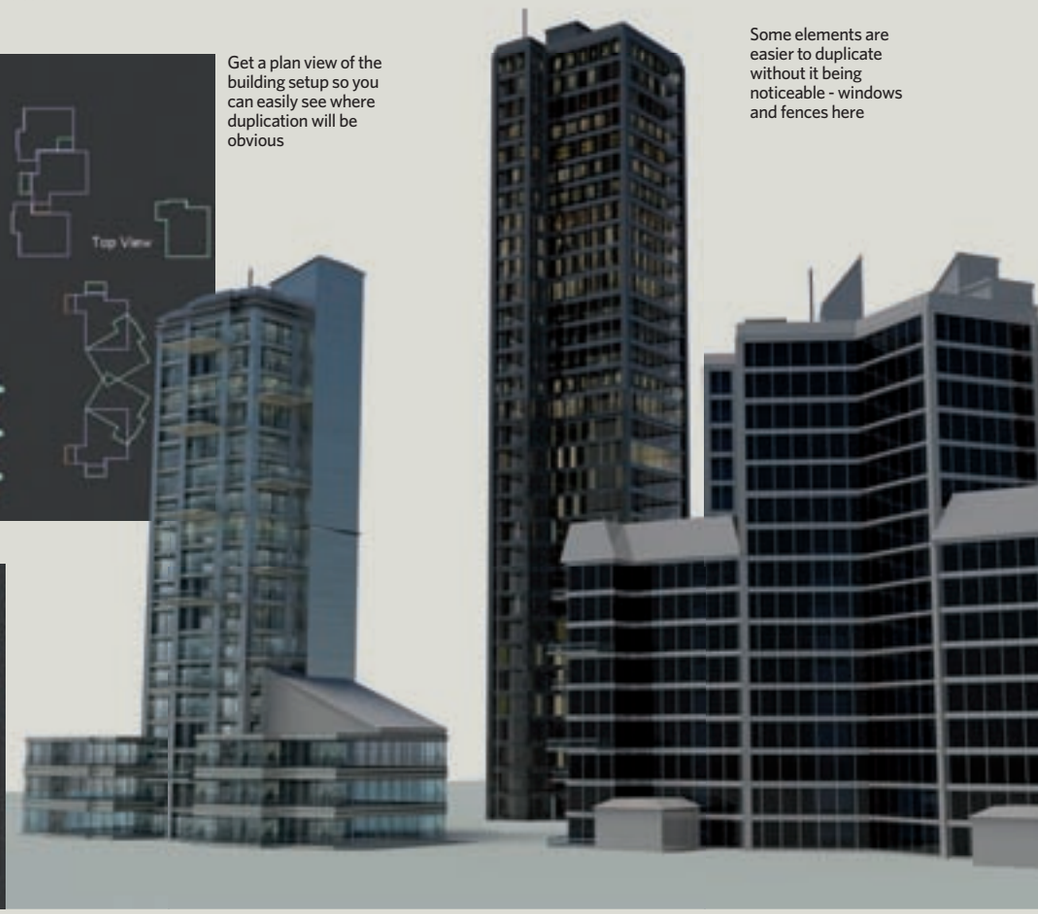






Get a plan view of the building setup so you can easily see where duplication will be obvious





Some elements are easier to duplicate without it being noticeable - windows and fences here

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3DArtist

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Texturing spaceships

> Can you give me some idea of how I should go about texturing the model of a spaceship I've made? What steps do I need to do and how do I get that worn grey metal look?

Mark Winch Melbourne, Australia

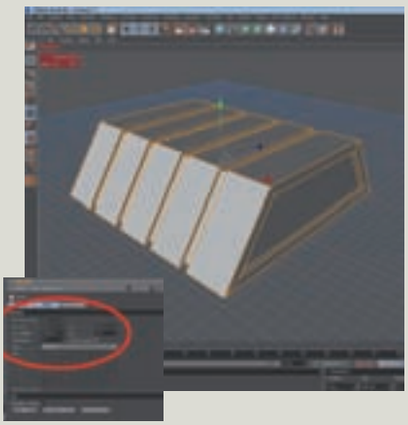
The process may vary depending on lots of factors, most important among them being what software you have got at your disposal and how detailed the hull structure is supposed to be for the final product. Users of CINEMA 4D are lucky to have one of the world's best texturing tools built-in within the program in BodyPaint 3D. Users of other 3D software can get it as a standalone, use another similar external texturing tool or simply decide to do all the texturing in raster software.

The level of detailing depends on whether you are preparing the model for a game, an animation or a still image, and also of the importance of the model in the final context. Models for a game have very strict poly count restrictions and the textures have to be as small as possible. The same applies when texturing a model for an animation even though the poly count restrictions are not as strict, while high-texture details still do not make much sense since they are mostly lost after applying the motion blur. Texturing for a static image is most demanding when it comes to quality while the poly count and texture sizes are of secondary importance. Finally, if the model is close to the camera, you'll need extremely detailed modelling and textures.

Another thing that the quality of simulation of metallic surfaces depends on is the lighting. Metal surfaces, even the painted ones, reflect light in a special way so it is good to take it into account in the modelling phase, while you also should have a general idea of what the lighting setup of the scene is going to be and even add a final material touch-up later after the final scene lighting is set up. A material that looks convincing under the temporary lighting setup during the modelling process might end up too dark, burned out or otherwise unacceptable later, especially if the Reflectivity and Specular values are high and if there's lot of Bump maps present.

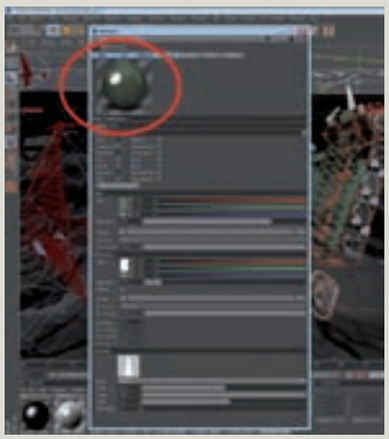
Lighting the spaceship

The industry's pipeline purists may frown at this one, but I developed a habit to readjust the metallic, glossy and transparent materials after the final lighting setup if necessary, as they tend to be extremely sensitive to changes in intensity, colour, direction and other lighting attributes. Some problems can be solved by slightly adjusting some of the lighting parameters, repositioning some of the lights or even by adding local lights and/or reflective surfaces. Besides that, more extreme measures might be necessary, like replacing reflections with Environment maps and using displacement texturing (or even adding details at the polygon level) instead of Bump maps.



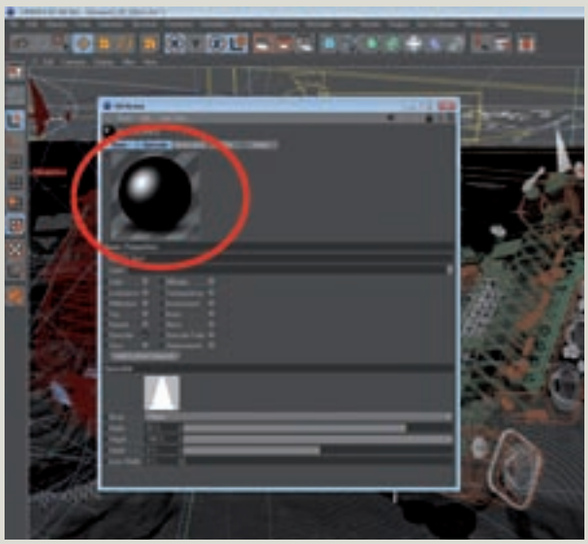
01 Before you start the texturing process...

It's important to get the correct specular highlights when aiming for a convincing metallic look, and they are easiest to catch on curved surfaces. So unless you're working on a low-poly model for a game or an animation, don't hesitate to add some slight rounding off. First, switch to the Edge tool then select the desired edges and choose Structure>Bevel from the main menu. In the Bevel tool settings, set the Type to Convex and the Subdivision to at least 5.



02 Define the preserved material

Remember that the materials will be ordered by ordering their texture tags in the Object Manager, and the texture tag furthest to the right should point to the upper-most material. The part of the metal that's not rusty should be first. Set the Color channel to a grey tone, with a touch of blue, red or green added (or use a texture). Set the Reflection channel's Brightness to CCA 10%. Adjust the Specular channel by setting the Width value to 50% and the Height value to 100%.



03 The additional specular material layer

The next material layer is optional but I suggest you add it to get a better control over the specular reflections of the metal, depending on the effect you want to achieve (painted metal, brushed metal, car paint, etc). Turn off all the channels of the new material except for the Specular channel, adjust the Width and Height parameters to get the effect you want and, after adding it, tick the Mix Textures checkbox under Texture Tag.

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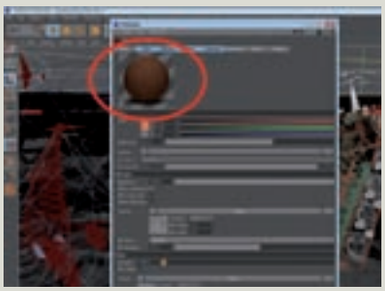
04 Add logos and inscriptions
The Insignia material layer follows, containing various ship insignia, logos, flags, etc. Two separate textures are needed here, one for the Color channel (it can be without a texture if all of the insignia is of the same colour) and one for the Alpha channel with transparent parts of the black material, while the printed parts can be in any lighter shade of grey, depending on how much you want the insignia to stand out.



05 Define the rust material
The last material layer in the row should be the material for the rusty and decayed parts of the hull. Besides the different colour (usually of a brownish or reddish dye), the main characteristics of the material are much lower specularity, rough (grainy, noisy) structure and the lack of reflections. A blurred version of the texture should be added to the Bump channel and, of course, unaffected areas should be black in the Alpha channel.

06 Add final touches
Additional scratches, weathering and shooting damage to the hull can be optionally added by simply painting them in BodyPaint 3D in different channels of the Decay material or even in a separate material that should be positioned between the Decay and the Insignia materials. Save the final render as a 32-bit channel image (HDRI or something similar) in order to be able to adjust the exposure and thus the final appearance of the materials later if necessary.

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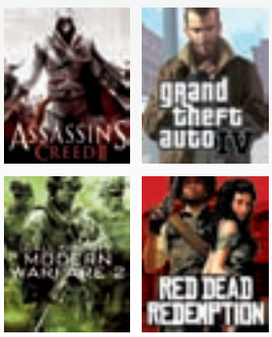

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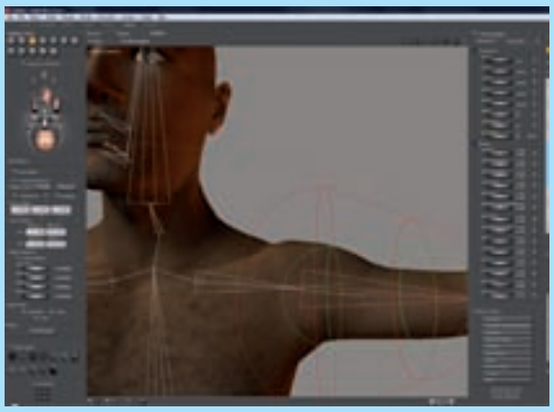
Poser can produce some very realistic renders, and you don't have to be a genius to create them

Poser 8 £189.99

Poser updates tend to be rare but substantial. How does version 8 compare?

Poser is probably the most accessible 3D application on the market, aside from DAZ Studio, with a toolset that anyone can get their head around without having 3D knowloedge. For this reason, it's been under-appreciated by graphics professionals despite some very impressive tools for 3D character design and animation.

This changed with the introduction of Poser Pro, which allowed Poser characters to be used within professional 3D applications (as well as including network rendering). A lot of users hoped this was a halfway stage to those features appearing in Poser 8, but they haven't – and as yet there's no announcement of Poser Pro 8.



New skinning tools mean more control when creating your own characters

That said, version 8 does bring a lot of changes. There's a lot here that will be attractive to professionals and enthusiasts alike. The interface has been completely overhauled, there's over a gigabyte of new content and rendering within the package is more impressive than ever.

Poser's new improved interface looks a lot more complicated and more professional, but it's easy enough to get on with and it's really just a reorganisation of what was there before.

The panels are now more formally arranged and there's less grey space, but it's all recognisable and allows you to work more interactively. The viewport and light controls are the same and are arranged down the left-hand side along with the display and toolbox options. The camera or render view takes centre stage, and to the left of it two panels give you control over the selected object and its morphs, and allow access to the revamped library.

The library itself has had a major update and it's now more responsive and easier to navigate. Previously, it was suitable for the content that came with Poser, but with the explosion of cheap figures, clothes, poses, props and hairstyles available from sites like Renderosity and DAZ 3D, the library just wasn't up to the job. There's now a more compact layout, a Favourites tab and a search option to save you routing around hundreds of folders.

Poser 8 comes with a lot of new content. There are eight new human figures – in reality, there's a male and female, each with four ethnic variants – and these come with their own poses, hair and material setups. The basic characters come with Standard, Advanced and Ultimate material setups, with different levels of rendering complexity and realism. Out of the box, the new figures are good, but available add-ons like Victoria and Michael will still have a place.

New figures need new clothes, and Smith Micro has thoughtfully included the

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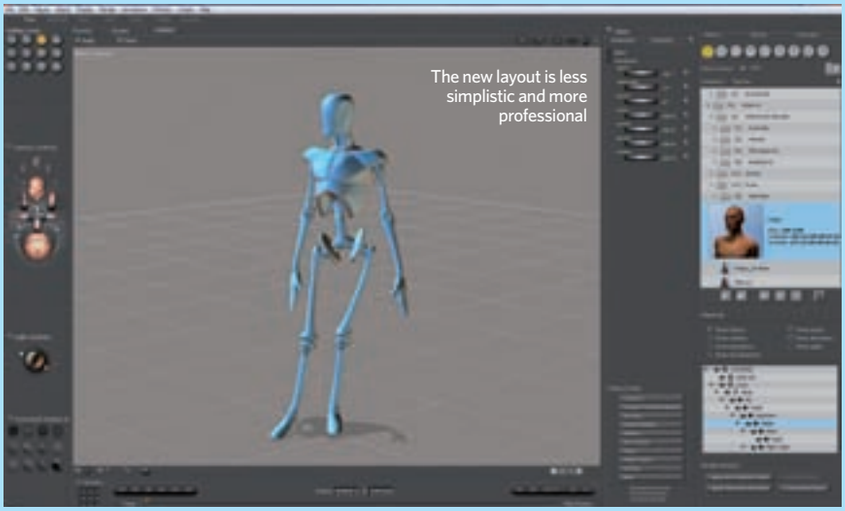

The new layout is less simplistic and more professional

The good & the bad

- ✓ Easy to use
- ✓ Good range of almost photoreal characters
- ✓ Lots of content available
- ✗ Limited export options (you can't export bones)
- ✗ Slows down when using more than a few characters

Essential info

www.smithmicro.com
£189.99

OPERATING SYSTEMS
- Mac OS X 10.4
- Windows 2000, XP or Vista

OPTIMAL SYSTEM REQUIREMENTS (MAC)
- Mac OS X 10.4
- 700MHz G4 processor (Intel Core Duo or 1GHz G4 or faster recommended)
- 512MB RAM (1GB recommended)

OPTIMAL SYSTEM REQUIREMENTS (PC)
- Windows 2000, XP or Vista
- 700MHz Pentium (1GHz or faster recommended)
- 512MB RAM (1GB recommended)

> "There's a lot here that will be attractive to professionals and enthusiasts alike"

Wardrobe Wizard, previously available as an add-on. This tool allows you to convert any clothing you have for older Poser characters so that it fits the new figures. It's a bit technical and takes a while to work, but it does the job and gives all your characters a much bigger range of garments.

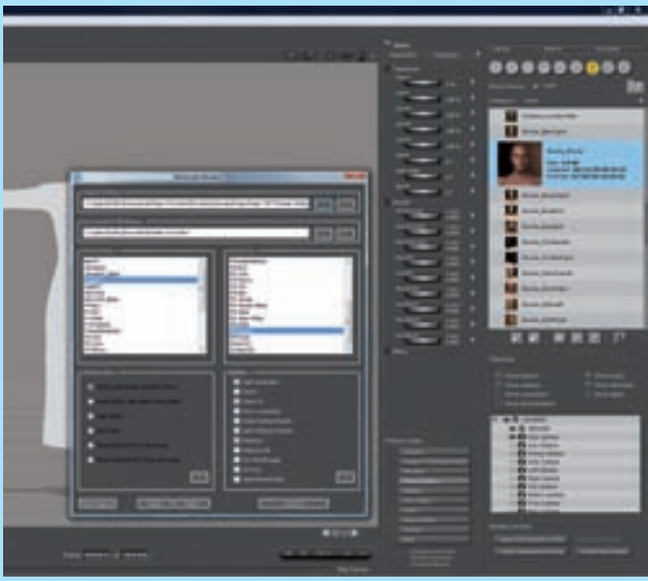
Creating your own morphs to remodel characters is now easier. You can now use the morphing tool to create morphs that work across multiple body parts for a smoother result.

If you're into creating your own Poser characters, you'll also find the improved rigging system will help with making figures that bend realistically.

Rendering improvements include indirect lighting, so light bounces from one object to another for a more realistic effect (if you've got several objects in a shot), and you can now have lights that have less of an effect the further you move from them, as in the real world. There's also a post-render tool for adjusting brightness and saturation, as well as support for Normal maps and an impressive range of new lighting setups that you can add to your scene with just a single click.

All in all, the new look is a positive move. The reorganisation of the library is overdue but welcome, and the rendering and lighting tweaks will improve the quality of most users' work. The new figures are impressive, even close up, but until the content creators at Renderosity and the like get their hands on them, we won't really know whether Smith Micro's claim for them that they can "fool the untrained eye" is really true.

The new characters look good even close up


The Wardrobe Wizard is useful but it's not pretty

Our verdict

Features	9/10
Ease of use	9/10
Quality of results	8/10
Value for money	8/10

> "Powerful, easy to use, expandible"

Final Score 9/10

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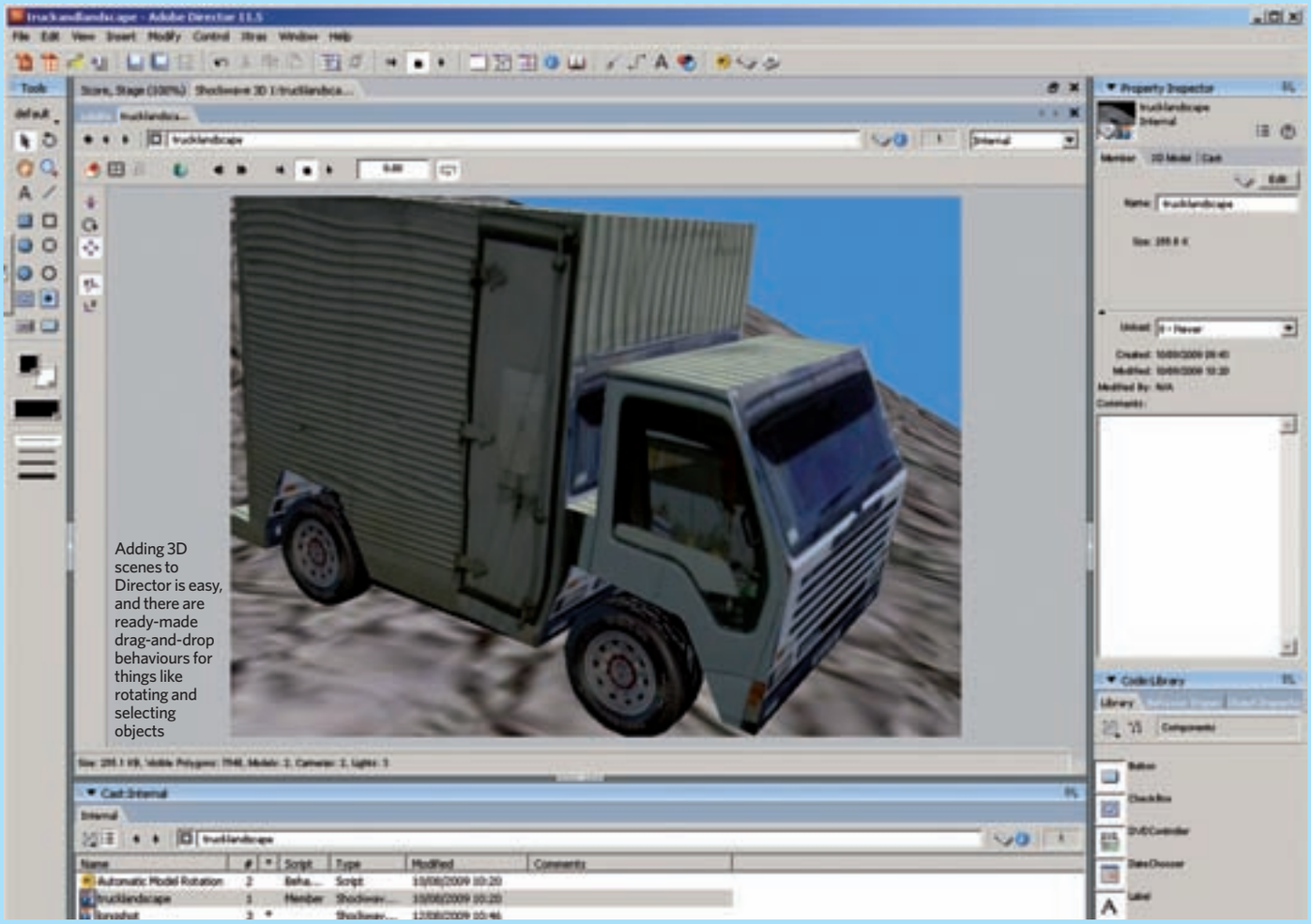

Adding 3D scenes to Director is easy, and there are ready-made drag-and-drop behaviours for things like rotating and selecting objects

Director 11.5 $999

Director is the most sophisticated tool available for putting real-time 3D online, but how does version 11.5 stack up?

Adobe Director used to be the way really impressive-looking multimedia was built. It enabled you to create interactivity in hugely flexible ways and then deliver it as websites or executable programs.

As Flash became easier to use and more powerful, and products like Dreamweaver allowed more and more to be done in HTML, Director found itself a little sidelined.

However, the package continues to be very, very good at real-time 3D on the web – and that, to a large extent, means games. Do a search for online 3D games, or indeed online 3D of any kind, and most of the content you'll come up with will be written in Director's Shockwave format.

> "In addition, you have the option of using bones created in other packages to script movements in Lingo"

Director's interface is a little like that of Flash (for obvious reasons – it's from the same company and does a similar job). The score – its timeline lists all the elements on-screen at any given frame and gives an overview of your entire movie. The stage, to the right of the screen, shows you what the viewer will see. The bottom panel lists the cast – the graphics, sounds and program scripts used in the movie, and the right-hand windows offer information about the currently selected object and the libraries and detail of code used to control what happens on-screen.

All of this seems a little intimidating. If you're used to working simply in 3D, then you're going to have to get used to the fact that real-time 3D means learning a whole suite of new ideas and tools. Director makes a good stab at making this accessible, but it can still be a bit of a culture shock. The chief problem for new users is that if you want to get your 3D scenes to do anything more than just sit there, you'll need to write code.

Director's coding language is called Lingo, and although there's still no substitute for learning to use it, the new Scripting Dictionary in version 11.5 will help new users avoid a lot of frustration by adding code in a single click with all the correct syntax in place. This won't help you structure your code, but it will make sure you don't waste time by putting commas, brackets and capital letters in the wrong places.

Director allows you to import 3D scenes in the W3D format, and you can bring in

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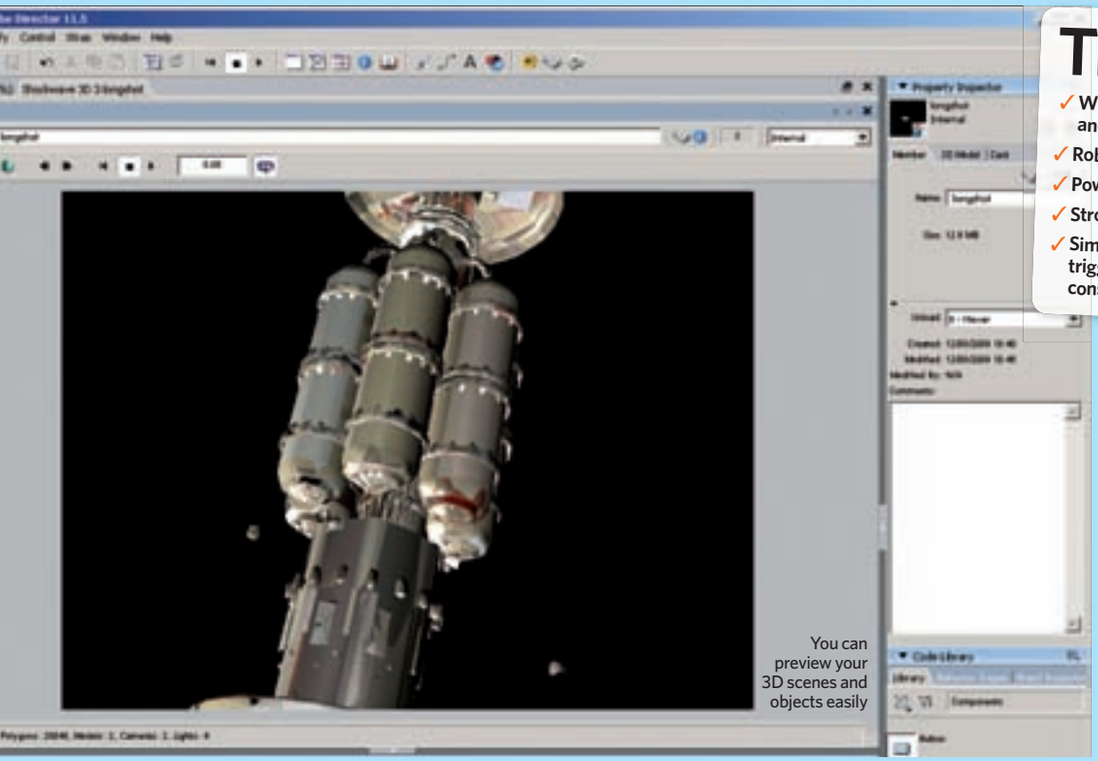


You can preview your 3D scenes and objects easily

The good & the bad

- ✓ Wide range of tools for 2D and 3D interactivity
- ✓ Robust PhysX engine
- ✓ Powerful scripting language
- ✓ Strong audio tools
- ✓ Simplified behaviours and triggers for quick construction
- ✗ 3D still feels as though it's a bolt-on rather than a central part of Director
- ✗ Steep learning curve
- ✗ Not everyone has it – around 50 per cent of users don't have Shockwave installed

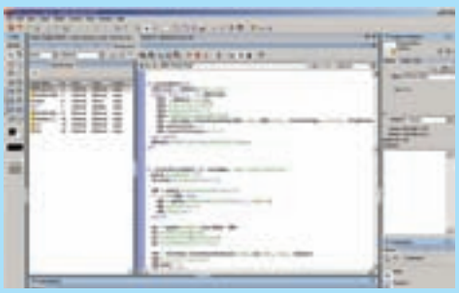
Essential info

www.adobe.com
$999 US

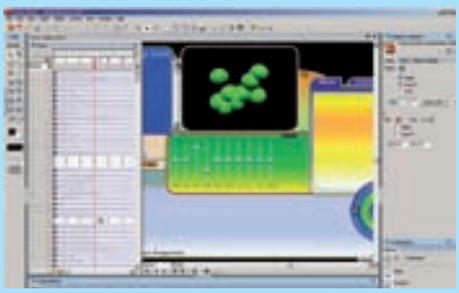
OPERATING SYSTEMS
- Windows XP/Vista
- Mac OS X 10.4

OPTIMAL SYSTEM REQUIREMENTS (MAC)
- Multicore Intel processor
- Mac OS X v10.4
- 512MB RAM

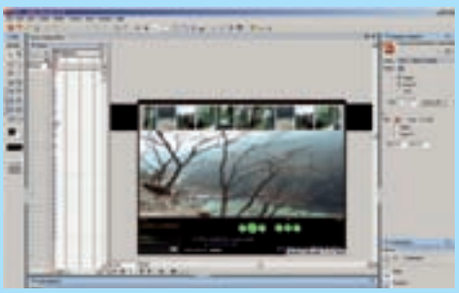
OPTIMAL SYSTEM REQUIREMENTS (PC)
- Pentium 4 or above
- Windows XP/SP2 or Vista
- 512MB RAM



Learn a new language
Lingo is Director's scripting language. It's tough to learn, but the new Scripting Dictionary will help



Audio mixer
The new audio mixer allows you to mix sounds live as the movie plays



HD video
HD video is now supported, and you can even apply Photoshop-style filters to it as it plays

animated meshes. So, for example, if you create a character with animation loops for walking and performing other actions, you can bring those in as part of the W3D file and use Lingo to tell Director when to perform each movement. In addition, you have the option of using bones created in other packages in order to script movements in Lingo.

The package also has a pretty robust physics simulator for dynamics (based on the PhysX engine), and it's relatively easy to use this in your projects.

Version 11.5 uses the DirectX 9 driver for 3D, so there's increased performance. There's also support for Google SketchUp models, so you can bring in outside 3D content a lot more easily. Reformatting OBJ models would have been a more useful addition for most 3D artists, but at least with Google SketchUp there's a vast database of freely available models.

On the video side, you can now embed HD movies into your projects with support for MP4 and FLV files. You can also mess with your video, as it plays by applying bitmap filters like blur, glow and colour correction to live video by mixing audio and by using cue points in the video to trigger other events in your movie.

All in all, this isn't a massive update for the 3D user, although the new implementation of the PhysX engine will be a boon and the Scripting Dictionary will ease new users into coding. However, Director is and remains the most popular and accessible method for creating sophisticated 3D interactive experiences on the web, so if you're considering turning your artwork into a real-time project, it still has to be your first stop.

Our verdict

Features	8/10
Ease of use	6/10
Quality of results	8/10
Value for money	7/10

> "Expensive and hard to learn, but gives great results and is still the best option out there"

Final Score 7/10

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The3dStudio.com £Various

Ever wanted to make money from your 3D models? We take a detailed look at the extensive user-content-based website The3dStudio.com

An example of a typical model found at The3dStudio.com, complete with compatibility details, polygon figures and multiple screenshots

Established during the Wild West days of the internet that were the mid-90s, The3dStudio.com has become an expansive provider of user-created 3D resources. As a buyer you'll discover more than 300,000 files to explore, but it's the selling features that really make the website shine.

The site enables you to upload a wide range of resources, including 3D models, textures, stock images, sound effects and scripts. Uploading is a simple process of selecting the files on your hard drive and clicking a button. Once saved to the site, you can enter the selling price, its name, keywords and category. The file is instantly added to the site and the seller is given the URL to share and examine. There are no contracts to sign, no listing fees and no hosting fees.

Sixty per cent of the royalties from any sales go straight to the seller, a generous amount for a website of this kind – but it's worth noting that sellers outside of the US will need to fill out an IRS W-8 form and post it to the website, and that a 30 per cent tax rate is added to any sales from US citizens. Payment takes place once your balance reaches $50, and the website offers PayPal, wire transfer, cheques and Moneybookers as payment options. The $50 minimum amount is a double-edged sword. It encourages higher-quality models to be uploaded to the site, but also higher asking prices. After all, why price your model at $10 and wait for multiple sales, when at $100 you can be paid as soon as a model sells at $50?

For a buyer, there's a lot of content waiting to be discovered. Searching for the word 'plane' produces 2,000 results. Narrowing down the search to 'Spitfire' resulted in 94 results. Prices ranged from $15 to $199, but the higher price didn't necessarily mean a better model. It pays to carefully examine each model before making a purchase. To help you make a decision, there are a number of information fields about each model, including the file formats and compatibility, amount of polygons and a handful of screenshots. Other users can rate a model out of five stars, and if you have a particular question there's a contact button for getting in touch with the site.

This is an extensive website with literally hundreds of thousands of 3D-related resources. It's easy to navigate, if a bit dated in appearance. Nevertheless, you can find a wealth of professional-level models in next to no time. With its free registration and listing process, The3dStudio.com is highly recommended for any 3D artist looking to make some extra cash from their talents.

> "An expansive provider... but the selling features really make the website shine"

Our verdict

Features of site	8/10
Ease of use	8/10
Quality of models	7/10
Value for money	7/10

> "An extensive collection of user-made content, with generous selling options to boot"

Final Score 7/10

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Maya 2008/2009 Essential Training Masters Collection $199

A wealth of video tuition

Opening Maya for the first time is an incredibly daunting experience. The program comes with its own built-in video tutorials that explain the basics, but if you want to learn how to fully take advantage of the application, then third-party video tutorials are often your best option.

With more than 26 hours of Maya video tuition, this is an extensive first release by ExtraOrdinaryTraining.com, and priced at $199 it's cheaper than many other similar titles. You'll find three DVD-ROMs packed with high-definition videos, each selected by using an interactive menu on your Mac or PC. The interface is easy to use and intuitively laid out, and it automatically scales to the size of your monitor.

The first disc takes a look at the user interface, scene management, modelling, camera settings, animation and materials. Disc two digs deeper into Maya, explaining how to work with materials, lighting, scripting and effects. The third disc covers inverse kinematics and character rigging. It also comes with bonus lessons on integrating Maya with Poser Pro and Vue 7. Each of the three discs

also contains tutorial files that can be used to follow some of the more detailed videos.

It should be mentioned that all 26 hours of video tuition are available to download from the ExtraOrdinaryTraining website. It's not possible to buy individual chapters, however – only the full set of videos for the same price.

At times it's clear this is a first release by the company. The tutor often clears his throat, repeats sentences, and occasionally you hear background noises. The interface also crashed when using Windows Vista, meaning we had to manually load each video into Flash Player. But look past these niggles and you'll find an ocean of information, covering practically every aspect of Maya.

www.extraordinarytraining.com

Our verdict

Features	7/10
Ease of use	8/10
Quality of results	6/10
Value for money	7/10

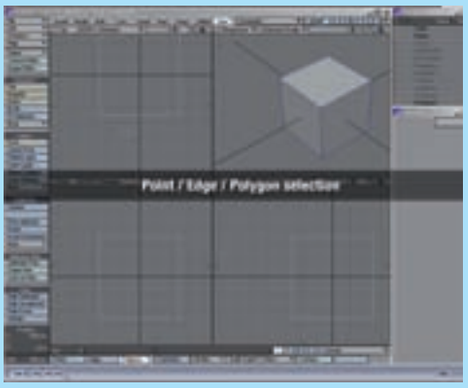
"A jam-packed release that eases the viewer into the many features of Maya"

Final Score 7/10

Learning LightWave 9 €69

Easy-to-follow information at an affordable price

An interesting release by French company Elephorm, this training DVD takes a detailed and thorough look at LightWave 09. The tutor, Olivier Michon, leads us through the program, but because he doesn't speak English, you won't hear him much. Instead, NewTek's Europe LightWave expert Ben Vost translates and narrates the video. He does an impressive job, talking in a relaxed manner and explaining the many features of LightWave while following Olivier's actions on the screen.



Some of the videos require the use of scenes, objects and animations, all of which are included on the DVD

This DVD contains more than 70 separate videos, which are split between LightWave's two component programs, Modeler and Layout. The videos cover practically every aspect of both applications, such as the user interface, modelling tools, rigging tools, Surface Editor and lighting types. Alongside the videos are tutorial files that can be used to follow the tuition.

The disc works on both Macs and PCs, and the videos are encoded using Flash. Controls enable you to pause, skip to the next or previous video and jump back to the contents page. The menu is simple and intuitive to use, and can be accessed at any point during a video. The interface scales up to fill your screen, but the actual video tutorials are presented in their native size of 1,024 x 768. This means that anyone with a large monitor will see a black border around the videos.

This is a high-quality release, one that's easy to follow yet packed with content. At 69 Euros, it's a steal for anyone interested in learning how to use LightWave 09.

www.elephorm.com

Our verdict

Features	5/10
Ease of use	8/10
Quality of results	7/10
Value for money	9/10

"Hours of LightWave 09 tuition at a bargain price, highly recommended for newcomers to the program"

Final Score 8/10

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FEMALE CHARACTERS
Fleming represents a wide range of swords, sorcery and superhero archetypes in a typical pulp pin-up style

Draw and Paint Fantasy Females £14.99

Pole dances with wolves

AUTHOR
● Tom Fleming
PRICE
● £14.99
PUBLISHER
● IMPACT
ISBN NUMBER
● 978-1-60061-305-0

The female form is and always has been one of the most popular subjects in art; digital design is no different. Some artists and designers simply know which side their bread is buttered on, while others have a genuine fascination for and talent with the subject. Tom Fleming presents his book as a discourse on the latter. And you have to give him his due, from the oversexed succubus on the cover to Daredevil's assassin girlfriend, he certainly knows his favoured subject matter – it's something along the lines of five feet ten inches, 36DD, 22, 34.

He does also know his painting techniques and the book does genuinely shine with these – fantastically expressive ways of using watercolour, acrylics, airbrushes and pencils. But unless you're a concept as well as a 3D artist, and you lovingly sketch out your ideas either traditionally or digitally using real-media emulation software, you're probably not going to get much out of these (if you are a concept artist, however, this book is pretty indispensable if you design characters, especially for videogames).

Now, chances are high that at some point during their 3D career, every single artist is going to render a female figure at least once. And nine times out of ten it will be a fantasy figure, be it a warrior, sorceress, fairy or superhero. This book will certainly show you the conventions of representing these archetypes. The evil ones sneer and sport horns, scythes, corsetry and, judging by their seemingly unvarying grey skin tones, a loose sense of personal as well as moral hygiene. The good ones, with their feathery or butterfly wings, flowing locks and ambivalent attitude to the need for any form of useful clothing, form a dew-complexioned and smiling antithesis. Super-heroines have a classic neurotic edge of the Fifties hausfrau about them, while warriors just look plain menopausal. In fact, the only character Fleming draws who doesn't fit into one of these convenient boxes is Marvel Comics' well-loved Frank Miller creation Elektra, whom he portrays with such energy and Daredevil-may-care dynamism that even the most stone-cold feminist can forgive him his sleepy, afterglowing and decidedly deflowered fairies and comedy lapses into pure sexism in the text.

BASIC TECHNIQUES
Pencil drawing is such a pivotal part of this artist's style, and for concept artists especially, this section within *Draw and Paint Fantasy Females* really is a very useful source of inspiration

PALETTES
A range of palettes are discussed within the book for representing different skin tones based on a female character's environment and alignment. This acts as a helpful reference during creation

CLOTHING
The quickest way to suggest characterisation can be the clothes a character wears, whether modern or medieval in style. Another handy cheat sheet for the 3D artist!

TUTORIALS
A number of images in *Draw and Paint Fantasy Females* are accompanied by tutorials. These focus on drawing and painting but are an excellent resource for concept artists

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Art of Making Marks £23

Digital artists give Wacom some love

This hardback tome from Systems Design is sponsored by Wacom, which probably explains why it has a definite pat-on-the-back tone all the way through it. Essentially, it's a celebration of Wacom's graphics tablet ranges. The introduction takes you through major milestones in the development of graphics tablets and the programs that make use of them, from note-taking to drawing and painting to 3D design.

The rest of the book, however, is primarily made up of interviews with a talented but disparate collection of digital artists and designers as well as industry professionals in software development. The work showcased is stunning, but feels aimless as it is not organised into any kind of categories. The paper stock it is printed on is matte and lightweight, which isn't the best choice for an otherwise delightful hardback.

TIMELINE
Discover the progression of imaging software and Wacom graphics tablets with this handy timeline of events

EXCEPTIONAL ARTWORK
A wide range of artwork from all kinds of different software programs is displayed, each of them produced using Wacom graphics tablets

3D DESIGN
Wacom products are useful in a wide range of imaging programs, so you will see a reasonably good amount of 3D design as well as digital painting

info

AUTHORS
- Ric Holland

PRICE
- $46.88 AUD (£23 approximately)

PUBLISHER
- Systems Design Ltd

ISBN NUMBER
- 978-988-9959173

An Illustrated Guide to Mythical Creatures £10

David West illustrates a wide range of mystical beings

This children's book breaks from convention by being illustrated with 3D renders rather than traditional drawings or paintings. Perhaps this is in the hope that younger children will believe them to be photographs, and add a sense of magic and wonder to the proceedings. However, most kids have grown up on a diet of Pixar and have a familiarity with the look and feel of 3D, even if they don't know what exactly it is.

The design and layout of this book is lovely, mixing West's renders of angels, sphinxes and the monsters of Greek and Roman mythology with older illustrations from folk and fairy tales. Some models are more basic than others and some so crisp and clear they stand out almost too cleanly against the faux-parchment pages. Nonetheless, this is a fun book for younger children and it's nice to see 3D being used illustratively.

MYTHICAL CREATURES
The book takes an approach that's akin to natural history, perhaps to fool kids into thinking these renders are real!

ANGELIC BEINGS
The text inside looks at various mythical creatures from all countries and pantheons, illustrated with a pleasant mix of 3D and traditional drawing

SCARY MONSTERS
We don't know about yours, but our children would be wailing under the bed if they were confronted with this in a seemingly innocent picture book!

info

AUTHOR
- Anita Ganeri

PRICE
- $15.99 USD (£10 approximately)

PUBLISHER
- Hammond World Atlas

ISBN NUMBER
- 978-0843-716696

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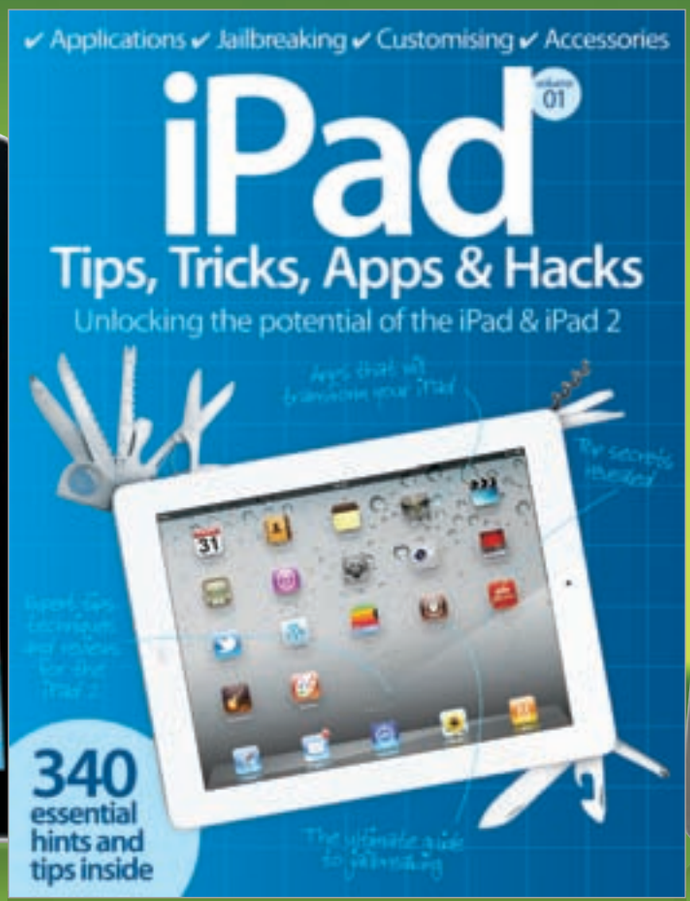
We don't keep secrets

iPhone
Tips, Tricks, Apps & Hacks
The insider's guide to unlocking the potential of the iPhone
340
essential hints and tips inside

iPad



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Learn the truth about iPhone, iPad, Android, Photoshop and more with the Tips & Tricks series' expert advice and tutorials

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Inside guide to industry news, studios, expert opinion and education

Bournemouth University
106 Uni Focus

The University of Bournemouth

The University of Bournemouth boasts a seaside location (well, it's near the seaside anyway), a number-one rating from *The Guardian* and offers an MA in 3D Computer Animation. We take a look at what it has to offer

Landing
Alessandro Baldasseroni
Personal portfolio site
www.eklettica.com

104 Insider interview
Bill Ledger
Each issue we interview an industry professional and ask them how they got to be where they are today. In this issue, CGI cartoon illustrator Bill Ledger reveals all

096 News
Industry news
An expanded news section brings all the important announcements from SIGGRAPH and the 3D world

100 Studio Access
Section 8
Jump out of a spaceship at 15,000 feet and burn into the battlefield, ready for action. No wonder they named the division Section 8 – it's the US military term for discharge due to insanity

inside

Bill Ledger, cartoon illustrator, on what software he uses to create CGI and why. **Page 104**

"I use CINEMA 4D exclusively. I have tried all the programs, but everything I did in CINEMA 4D was twice as good and completed in half the time"

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SIGGRAPH 2009

A

B

C

E

Another year is over for the premier conference on computer graphics and interactive techniques

A / E More than 140 industry organisations exhibited at this year's SIGGRAPH

SIGGRAPH is over for another year, and the 2009 event saw 11,000 artists, research scientists, gaming experts, filmmakers, students and academics from 69 countries descend on New Orleans. On top of this, over 140 companies set up stands at the exhibition, including Autodesk (see page 98 for the story on its new launches).

As well as the exhibition, the conference attracted 965 speakers, including keynote speeches from Randy Thorn and Steve Duenes.

There was also an increased focus on videogames, with SIGGRAPH's first game development competition under the name of 'GameJam!'. GameJam! challenged teams to create a 3D game using the Panda3D game engine and a 2D game using Flash in a 24-hour period. Each team that participated was awarded a prize.

GameJam! ran alongside FJORG!, the third 'iron animator'-style competition, with Team Prestissimo from Thailand chosen from a field of ten three-member teams who competed for 32 hours non-stop to create a character-driven animation under this year's theme Great Expectations. The winners received passes to SIGGRAPH 2010 as well as a ride on the New Orleans parade float, among other things. The winning games and films from both GameJam! and FJORG! are available to view on the SIGGRAPH website now.

The winners of the Computer Animation Festival were also announced during SIGGRAPH. The Best in Show Award went to a narrative animation called *The Pumpkin Factory* (French Roast/Fabrice O. Joubert) set in a Parisian café in the Sixties.

The Computer Animation Festival is a prestigious event. Since 1999 it has been an official qualifying festival for the Academy of Motion Picture Arts and Sciences' Best Animated Short Film Academy Award, attracting hundreds of submissions from all around the world.

Next year's SIGGRAPH, the 37th conference, will be held in Los Angeles Convention Center 26-30 July 2010. See www.siggraph.org for the latest news.

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D

B Randy Thorn, two-time Academy Award winner with Skywalker Sound, was one of the keynote speakers

C BFJORG!, the third annual 'iron animator' competition

D Steve Duenes is graphics director for The New York Times Company, and he gave a keynote speech

Vue 8 solutions unveiled

xStream and Infinite versions coming soon

e-on software used SIGGRAPH 2009 as the perfect opportunity to show off the new features of the upcoming Vue 8 xStream and Vue 8 Infinite.

Both products, designed for creating, animating and rendering natural 3D environments, are scheduled for release later in the year. New developments include 3D terrain sculpting, directional displacement and the third generation of the Spectral Atmospheric Engine technology.

On the stand, e-on displayed a number of case studies for the new products, such as architectural visualisation, creating a virtual set, digital set extension and integrating Vue with Maya.

To find out more about the product, head on over to www.e-onsoftware.com.

Blender 2.5 revealed

Blender Foundation introduces its latest new release

The Blender Foundation has shown off the results of the Blender 2.5 project, which is a customisable interface layout system with access to Blender's tools and functions.

It's taken almost two years to develop the package based on feedback from real-life users. Key changes include improved customisation options of the layout, which enable users to change hot keys and macros as they wish, for example. It also provides an upgraded animation system that uses function curves, higher-level actions, the nonlinear animation mixer or scripting.

The first official version of Blender 2.5 is expected in October during the eighth annual Blender Conference in Amsterdam. See www.blender.org for more info.

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3DEqualizer4 demos

The results of three years of development

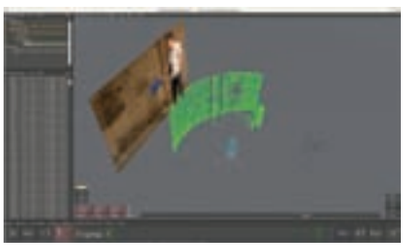
German company Science.D.Visions has unveiled 3DEqualizer4, a match-moving software package used by some big names. This version has had a near complete rewrite to support Windows, Mac OS X and Linux. Features include 50-100 times faster performance and extensible Python scripting.

The software, which won an Academy Award in 2002 for Technical Achievement, has rewritten nearly 90 per cent of its core code to essentially create a new product. Match moving is used by visual effects teams to insert virtual objects into real footage with the right position, scale, orientation and motion to produce seamless composites.

There are a host of new productivity features in this release, including a new calculation core, lens distortion features, improved 2D tracking engines and a new user interface.

Science.D.Visions' technology is used by an extensive customer list, including Weta Digital (Wellington, New Zealand). "With 3DEqualizer4, the ability to customise our workflow requirements has been taken even further with the new user-definable interface and hot key shortcuts, which allows our team to create their own working style," says Lee Bramwell, Weta's digital camera supervisor.

3DEqualizer4 is available now in solid beta and expected to ship in the autumn. See www.3dequalizer.com.



3DEqualizer4, the latest version of the popular software, has received an almost complete rewrite

Maya 2010 offers affordability and improved features

Autodesk launches 2010 packages

Range of cost-saving suites announced

Autodesk has used SIGGRAPH 2009 to unveil a massive list of new launches and suites.

Most of the launches come from the previously announced 2010 range, giving customers a chance to experience the latest software developments. One of the most significant releases is Maya 2010, which unifies Maya Complete 2009 and Maya Unlimited 2009 to create a radical makeover of the popular 3D software. This enhanced feature set gives the package match-moving, compositing and rendering capabilities in one affordable offering.

Alongside Maya, Autodesk showed off Softimage 2010, Mudbox 2010 and MotionBuilder 2010, each of which have had their own personal enhancements. For example, Mudbox has been enhanced with new creative tools and workflows, plus there's a new software development kit that enables production teams to more easily integrate Mudbox into their workflow.

As well as the individual program launches, Autodesk has announced a range of new suites that offer more than 35 per cent in savings. Both the Real-Time Animation Suites and the Entertainment Creation Suites include either Maya 2010 or 3ds Max 2010, plus MotionBuilder 2010 in both suites and Mudbox 2010 in the Entertainment option. There is also the Education Suite for Entertainment Creation (Maya, 3ds Max, MotionBuilder, Mudbox, Softimage and SketchBook Pro) and Animation Academy Suite (3ds Max, Maya, MotionBuilder, Mudbox and SketchBook Pro).

Finally, Connection Extension for 3ds Max 2010 and 3ds Max Design 2010 has been launched, making it easier to work between 3ds Max and packages from Autodesk and third parties.

More info at www.autodesk.com.

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iClone 4 and WidgetCast previewed

Reallusion shows off its latest developments

Reallusion, developer of 3D animation tools, has unveiled the latest products from its impressive stable.

iClone 4, which should be available by the time you read this, is the newest incarnation of the real-time animation studio. It introduces new features to combine video production with 3D real-time animation, making it a powerful tool for producing motion graphics, animations and video compositing. iClone has in its earlier versions been a popular choice for introducing students, professionals and independent filmmakers to real-time 3D animation.

Reallusion also introduced WidgetCast, which mixes digital content into a widget. It has the ability to take music files, photographs, videos and other digital files and enhance its "content stickiness and delivery". It does this by blending all your digital files into portable Flash content for websites, social networks and Adobe AIR-powered desktops. An example of its use supplied by Reallusion is that it enables the broadcast of 3D avatars or billboards that float over a client's eCommerce site.

Features of the product include popWidget and popVideo, an interactive platform for converting video to transparent on-screen agents for using live on the web or the desktop for social-media marketing.

You will be able to find out more about both products by popping over to www.reallusion.com.

> "iClone 4... introduces new features to combine video production with 3D real-time animation, making it a powerful tool"

New 3D metal-printing service

Shapeways, a 3D co-creation community, has announced a 3D metal-printing service to expand its range of materials in its affordable printing line-up. The printer deposits a stainless-steel powder in a thin layer, combining it with a binding material. The 3D form builds up layer upon layer to create a computer-designed object. Shapeways is the first company to offer 3D printing in stainless steel. Prices from $10.00 at www.shapeways.com.

A new way to experience 3D

Alioscopy shows off no glasses 3D

Alioscopy joined the Autodesk stand at SIGGRAPH to showcase finished autostereoscopic 3D content on a proprietary HD LCD display. The company also looked at how Autodesk software could be used to create 3D content for playback on its LCD displays.

Autostereoscopic technology allows for no glasses viewing of 3D content, and is targeted at retail, hospitality, casinos, theatre lobbies, trade shows, concerts and more for digital signage with impact, but could also be used in the development of 3D games.

Alioscopy is currently working towards building a community of 3D artists to build Alioscopy-ready content and templates.

For more information, see www.alioscopy.com.

COLLADA gets supported

The Khronos Group announces wide support for 3D asset-sharing standard

The Khronos Group creates open standards for authoring, and COLLADA makes it easy to share 3D assets across apps, providing "comprehensive encoding of visual scenes, including geometry, shaders and effects, physics, animation, kinematics and multiple version representations of the same asset."

It enables authoring tools to work effectively with shader and effects software. At SIGGRAPH, several companies with stands have been making the most of COLLADA, including Google and Blender, but the most significant support comes from Dassault Systèmes.

See www.khronos.org for more information.

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Studio Access

Section 8

Duncan Evans talks to the TimeGate creative team about working on an FPS with a novel twist

TIMEGATE

Having produced well-respected strategy franchises *Kohan* and *Axis & Allies*, TimeGate moved into the FPS genre with expansions for *F.E.A.R.*

www.timegate.com/
www.joinsection8.com

Project *Section 8*
Description Sci-fi first-person shooter featuring a robust multiplayer and single-player experience. You are a member of the elite 8th Armored Infantry, sent to investigate the loss of communication from outposts bordering the furthest reaches of colonised space...
Country USA
Publisher SouthPeak Games
Software used 3ds Max, ZBrush, Mudbox, Photoshop, Unreal 3 Engine

Key people

Phillip Morales
Creative director

Zac Forcher
Art director

Tom Woods III
Lead environment artist

Traditionally associated with the real-time strategy (RTS) genre, developer TimeGate has been slowly working its way through to the technically demanding FPS by way of expansion packs for the *F.E.A.R.* franchise. TimeGate has been around for 11 years and is an independent game developer based in the curiously titled Sugar Land in Texas. After working on *Kohan*, *Axis & Allies* and then *F.E.A.R.* expansions, the company looked to create a FPS game that offered something a little different from the standard shooter. Cue a team of 20 artists, 20 programmers, 15 designers and ten producers beavering away on the project known as *Section 8*. In case you wondered, Section 8 is cause for discharge in the US military due to insanity. The game takes the name because the 8th Armored Infantry use powered armour suits and smash through the enemy defences by dropping into the battlefield from 15,000 feet.

Phillip Morales, creative director for TimeGate, explains what software packages were considered for creating the graphical assets for *Section 8*. "As a 3D modelling solution, we knew we would be using 3ds Max but were open to explore other solutions as the team grew in size and speciality. We looked closely at Maya and Softimage as well as ZBrush and Mudbox. Photoshop and Painter were also explored for texturing. Countless game engines were evaluated for the actual game. TimeGate is primarily a 3ds Max house, so there was no doubt we would continue to use it and upgrade to Max 2008. Maya, ZBrush and Mudbox were also used according to the individual artist's preference. Photoshop was selected for texturing Diffuse, Specular and Emissive maps. The Unreal Engine 3 was chosen to ensure that *Section 8* was graphically on par with other next-gen titles being released."

Having got the basics sorted out, it was time to develop the characters and to decide on numbers and whether parts could be recycled. "Our graphical game assets are a tightly contained set compared to other games; our primary focus for the game was massive battlefields, up to four times larger than the largest *Unreal* map! In order to make sure that the game ran smooth with a 32-player base and AI bots, we reused and optimised as many parts as possible."

A

> "If you wondered, Section 8 is cause for discharge in the US Military due to insanity"

Creating the graphical assets is just the start, though, as they then have to be animated. Rigging the characters and exporting animation to the game engine can sometimes be problematic. For *Section 8*, the characters were straightforward. The problem came elsewhere, as Zac Forcher, art director explains: "The one area where we had a few animation issues was with the AnimTrees. The UE3 AnimTrees were very useful for managing character animation sets, but could quickly become complicated and cumbersome, with characters using hundreds of animations. In these situations, we'd work with our engineering team to find ways to reduce AnimTree nodes by consolidating similar animations into a single node. So, for example, instead of having a node for each run direction (run

portfolio highlights

Here's a quick guide to some of the games produced by TimeGate over the past decade

2001 *Kohan: Immortal Sovereigns* PC
2001 *Kohan: Ahriman's Gift* PC
2004 *Kohan II: Kings of War* PC
2004 *Axis & Allies* PC
2006 *F.E.A.R. Extraction Point* PC
2007 *F.E.A.R. Perseus Mandate* PC
2007 *F.E.A.R. Files* Xbox 360
2009 *Section 8* PC, Xbox 360

A "It's hard to think back to the earliest work on *Section 8*, since it was a TimeGate side project for quite a while, but as I remember it, nothing was really created for *Section 8* before we had UE3 with the exception of a few concepts," says Zac Forcher, art director

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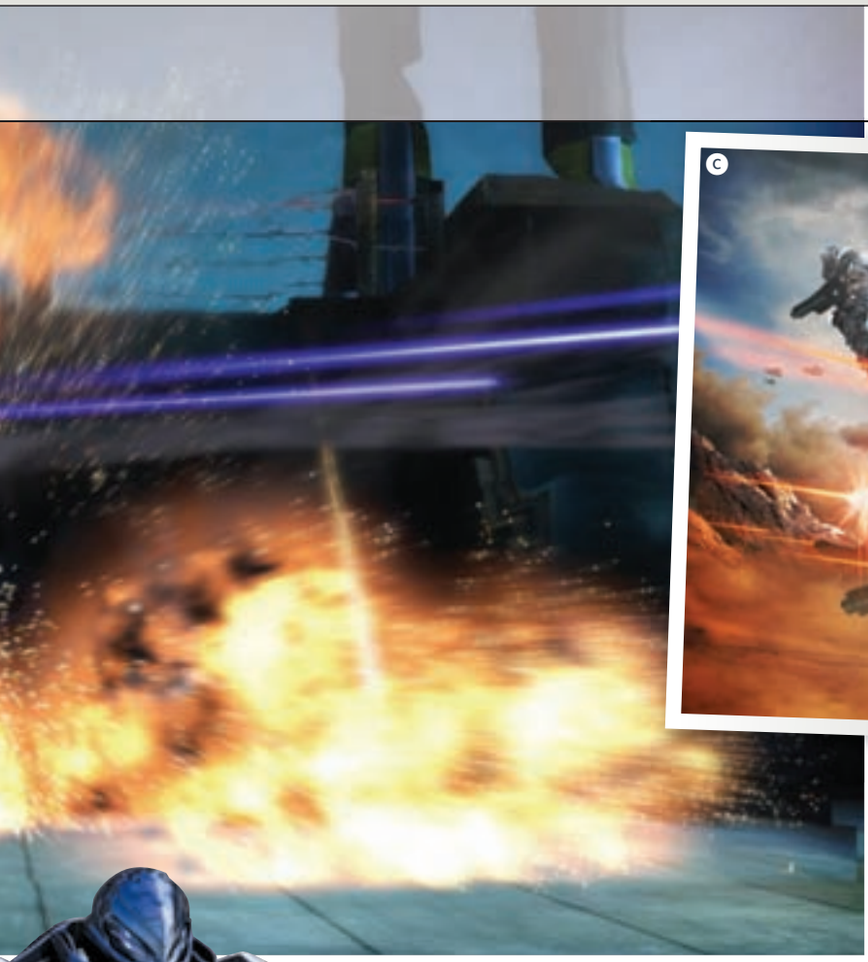
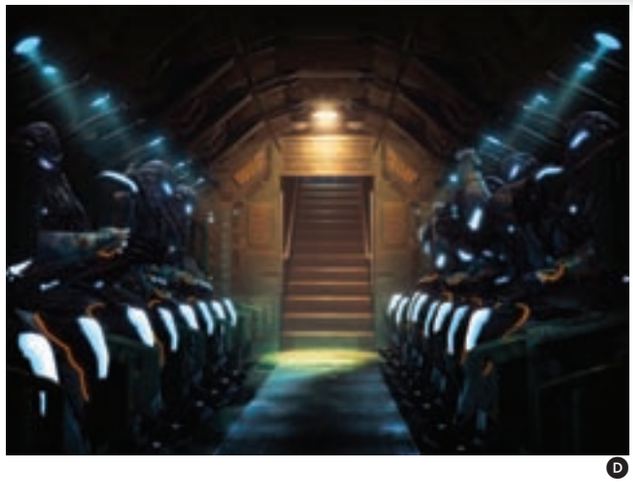


left, run forward, etc), we'd have one node that held them all."

As the forever-delayed *Duke Nukem* project has shown, it's no good designing everything and then changing the game engine further down the line. While *Section 8* had been on the back burner for a while, we wondered how much work had been done prior to assigning it to the Unreal 3 game engine. Forcher explains: "We were pretty well sold on the UE3 engine from our initial evaluations and able to use it in production of *Section 8* from very early on."

Tom Woods III, lead environment artist , had to deal with some of the specific problems. "For the most part, exporting was quite simple. We exported models from 3ds Max with material channels, UVs, smoothing groups, scale and pivot points set correctly. Whenever an asset needed adjustments, we could easily go back into 3ds Max, make a change and export again. The most troublesome part of it was creating unique collisions inside of 3ds Max. Collision in the Unreal Engine 3 has to be convex; it will split into multiple primitive wherever the mesh is concave."

C



D

E

B "For the game, we focused on a core set of characters, weapons and vehicles, since it was our first foray into the *Section 8* universe," explains Phillip Morales, creative director for TimeGate

C Only the crazy need apply to the plummeting soldiers in *Section 8*, but we say it beats respawning in a corner and getting repeatedly picked off!

D "Rigging and animation with UE3 is an easy, straightforward process. It's really as easy as creating your assets in 3ds Max, then exporting and importing the data into the engine," says Zac Forcher

E Armour this big needs similarly big weaponry to have a chance of penetrating it. Luckily for the soldiers in *Section 8*, that's fully supplied...

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On some projects the people who work on the models are separate from the team that does the textures for them, which can lead to problems such as overloading on detail and taking a hit on the frame rate. For *Section 8,* though, this wasn't a problem as Forcher points out: "Most of the time, whoever worked on the character's model was also responsible for the texture work and material instance setup. Overloading our character detail was a small issue early in the project because we weren't sure of our performance limitations. We investigated similar games to find ballpark standards, such as triangle and texture resolution ranges. These initial numbers provided very good starting guidelines to help minimise our optimisations later."

When you're developing for both consoles and the PC, there are going to be differences brought up by the potential of the hardware. Forcher explains what they were and how the team tackled it: "There is visual scalability on the PC that allows users to increase or decrease things like texture resolution and terrain detail. Scalability is very important for the PC platform because of the wide range of hardware available. Games consoles, like the Xbox 360, are much easier to deal with in terms of managing a good performance level since all hardware is the same." Woods adds: "The console and the PC each have their own texture detail settings, allowing the PC to gain much more detail if the user has a machine that can handle it. Texture compression on the console would sometimes cause undesirable artefacts."

These days, software packages such as 3ds Max and Softimage are so keyed in to what needs to happen with exporting assets and working with a game pipeline that we wondered if there were any technical problems at all. Woods admits: "There were rarely any major problems with the tools we used; all did what they were made to do quite well. Building in 3ds Max and exporting into UE3 was a smooth process. Our main problem was performance and the limitations it imposed upon us. As powerful as UE3 is, we still had to cope with very large maps and open spaces. To help watch out for performance red flags, programming came up with tools to alert us to assets that may cause performance to get out of hand. Another issue we had to struggle with was UE3's collision system. For more organic-shaped rocks and complex static meshes, we would sometimes have to resort to a hybrid collision where

F The sheer amount of detail that's gone into the game hasn't skirted around the facial features...

G ...likewise the armour, where complex modelling has taken place to create highly detailed battle suits

H "As it is possible to exceed the power of the Xbox with some high-end PCs nowadays, we've made it possible to improve some visuals using the scalability controls," says Forcher

I The end product of a character's modelling and texturing is a mean, not-so-lean, fighting machine

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J

K

> Heavy amounts of previsualisation through animatics, concepts and other forms of quick prototyping can pay off in the long run

L

I

the characters were set to collide with each polygon, while vehicles could collide with the simple box collision. This created more bugs that also had to be dealt with, but most of the major issues we were able to clear up by working with the level designers for the best solution."

In fact, getting the design properly sorted out at the start allows the programmers and artists to work with the right assets and to the right scale, saving time on possible reworking of assets later. Forcher rounds off his assessment of the project: "These days, next-gen graphics can be a time-consuming investment. Heavy amounts of previsualisation through animatics, concepts and other forms of quick prototyping can pay off heavily in the long run. It can be pretty frustrating to rework a design multiple times because you didn't have everything well thought out from the start." Woods also adds: "With characters that are able to enter the fight by dropping from orbit, we were challenged with the task of creating maps that could be viewed from miles above and do it with very little asset/memory budget – a view most games don't have to worry about. We did this by using limited textures, billboards and simple geometry. We then had to blend the outer area with the player area using alpha translucent materials. Programming provided us with tags that could be set to Drop Only, allowing us to have assets that would only be seen while dropping from orbit."

Section 8 is available on Xbox 360 and PC formats.

J Some of the promotional artwork generated by the artists to go with the game. Pieces of it were used to illustrate various elements, others went into marketing and advertising or were used in storyboarding the narrative. The animations were used to drive the plot onwards.

K The in-game cinematics were created in-house from storyboarding through to implementation. All the cinematics were implemented in the UE3 and then rendered out and played back as videos to eliminate frame rate issues

L "Since our characters are able to drop from the sky and jet-pack and run on just about every object in the game, several collision problems came up that had to be dealt with," says Tom Woods III, lead environment artist

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Industry insider

Bill Ledger

Freelance cartoon illustrator and character designer

Each issue, 3D Artist finds out how the top people in the 3D industry got their jobs and what you need to know to get a foot in the door

About the insider

Job Freelance cartoon illustrator and character designer

Education Ravensbourne College of Art, Bromley

Personal website
www.billledger.com
www.toyboxanimation.co.uk

Biography I am a freelance cartoon illustrator and character designer. I work for advertising agencies and publishers all over the world

It's a dream that many artists share – being your own boss and working from home. However, in order to earn a living you have to be a respected name in your industry and have a stream of international and high-profile clients – like Cadbury, Fisher-Price and the National Lottery – queuing up for your services. Welcome to the world of cartoonist and character designer, Bill Ledger. Ledger starts his day at around 7am, sitting at his Mac, drinking a coffee. He normally works on five to ten projects at any one time, so juggling them around is something that needs to be done all the time. Around 4pm America wakes up, and Ledger starts getting emails and calls from there, too. By around 7pm, though, he's had quite enough of being creative so goes to the pub and watches football...

3D Artist: *What kind of course did you do at university, or training did you do?*
Bill Ledger: I studied as a technical illustrator. 3D had not been invented then – yikes! We used perspective grids and airbrushed it. I have no formal training in cartoons or animation, I am completely self-taught. I am glad it happened that way, though, because I have originated my own way of working.

A Chav Dog

3DA: *For today's generation of students, what is the kind of educational grounding they should be looking to undertake to get a first job as a cartoon illustrator or animator?*
BL: There are no qualifications for a cartoonist. You have got to do your own thing. Animation courses are good, as there's so much software to learn and basic filmmaking processes. The art behind, though, cannot be taught.

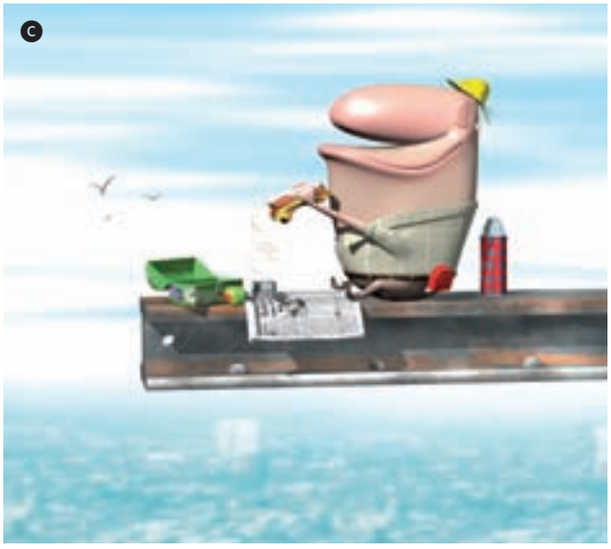
You need to love what you are doing or you will not make it. You will not leave college and fall straight into some well-paid interesting job doing just what you want. You really need an undying passion to get you through the early days.

B

I try to advise students what the trick is to making a career in illustration, but I must sound very empty because I really don't know myself. I had some years in my twenties when I could easily have left the business, but I guess an inner desire pushes you on.

3DA: *Tell us about Toybox Animation.*
BL: Toybox was set up as an extension of my illustration work. It's my illustration in motion! I am not a trained animator, nor have I ever had a job as an animator. I will use freelancers and studios I know in the business where necessary, but I largely do all the work myself. My clients like that. There is a lot of animation work out there for the independent illustrator/animator hybrid. They are really looking for illustration that moves. I have always attracted animation projects because of my style and character design work. The soul is in the script and design. There's more to an interesting animation than punching in Keyframes.

3DA: *How did you get to the position of having international brands knocking on your door?*



C

Portfolio highlights

The last few years have been especially kind to Ledger, with these projects stacked up under his belt

2009 Fisher-Price characters for Pop-Up Pals
2009 Monopoly Kids redesign
2008 National Lottery
2008 *Let's Find Out* 25-book series for Sandviks
2008 World Kidney Day
2007 *Those Scurvy Rascals*
2006 Cadbury Mini Rolls

B "The Lotto's Who's Next? campaign. I love this style! It's kind of a 2D character in 3D"

C Entitled *Lunch Break*, this is a piece of 3D illustration of a builder eating lunch

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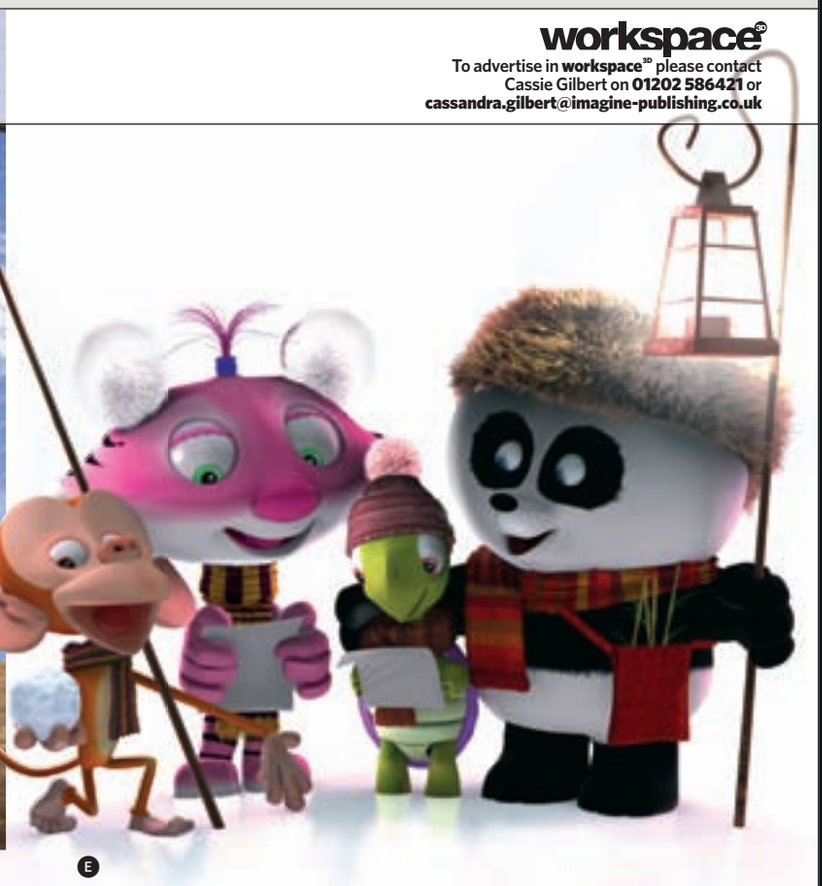

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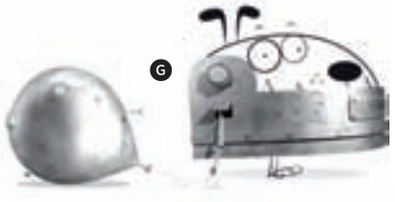
F Saatchi Healthcare character for an ad campaign



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BL: I have always been a freelancer and worked for myself. I started drawing Disney characters for a company in Wardour Street, London, which was a dream start. From there, I developed my work gaining experience all over the West End working for ad agencies and design groups. It was not until I was about 30 that it really clicked into place. There are not many working freelance illustrators under 30. It takes that long to develop and refine your work to a point where it's desirable enough for art directors to want to employ you. Your work has to be original and commercially usable – a delicate balance to find!

3DA: *What software packages and tools do you use for your 3D illustration and animation and why?*
BL: I use CINEMA 4D exclusively. I have tried all the programs, including LightWave and Maya, but I found everything I did in CINEMA 4D was twice as good and completed in half the time. It's the best all-round 3D program in my view.

3DA: *Is there a shortage of skilled digital artists doing 3D cartoon illustration and animation?*
BL: I think there are a lot of what I call brilliant '3D button pushers'. I am an illustrator that uses 3D, not a person with a 3D program trying to be an illustrator. Working in 3D is not any different to any other medium – it has to still work as an end image. No one will care what great shader you used or how you created the Bump map or what trick you used in the Specular channel. All the end viewer will see is an image and judge it on face value.

3DA: *How did you get into digital illustration and did you find it difficult to get into the industry?*
BL: I must have come from the last group of airbrush artists. It's all now either digital, Photoshop or 3D. I have never had difficulty finding work in the industry; I have always tried to keep on the cutting-edge of the business. I think I was the first illustrator to have my own website back in 1996, although I'm not sure who was looking!

3DA: *What are the key skills required to work as a cartoon animation artist?*
BL: A love of cartoons. I used to copy cartoons off the TV when I was eight years old and sell them to my friends at school. I used to do cartoon tattoos on my friends' arms of all the Hanna-Barbera characters. I have always loved cartoons and always will.

3DA: *Tell us about your work for Nickelodeon involving the series* Those Scurvy Rascals.
BL: Blue Zoo asked me to design three wacky pirate characters for a Disney presentation award ceremony. The pitch wasn't successful so they turned it into their own series, which I helped design. It went on to win two British Animation awards.

3DA: *What's been the most professionally satisfying project to have worked on?*
BL: Probably *Scurvy Rascals*. There's nothing like seeing your stuff on television and your kids yelping with joy when daddy's name comes up in the credits. Of course, we freeze the TV screen and just stare at it!

3DA: *What would be your dream project?*
BL: To invent another *Simpsons* – but in 3D, of course!

D "A book for Pearson Education called *Tim's Din*"

E All four characters from the Sandviks' book series

G A piece of artwork done for self-promotion purposes

H *Sesame Street* product development for Sandviks

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The best course and freshest talent from universities around the globe...

Bournemouth University

MA in 3D Computer Animation

Bournemouth University is a rapidly rising star when it comes to further education, named as the UK's number one university for 2009 and 2010 in *The Guardian University Guide*. Not only does it boast a glorious seaside location on the south coast of England and buzzing student life, it also has one of the best media schools in the country, with a particularly good track record when it comes to 3D courses.

The MA in 3D Computer Animation course is one of three postgraduate courses offered at the university, all of which stand under the umbrella of The National Centre for Computer Animation (NCCA) at the Media School. The course is based upon a specially formed Skillset Screen & Media Academy programme, designed to give graduates the essential skills needed to get jobs in the computer animation sector. Students are trained to enter professions such as character animators, technical animators, texture artists, modellers, games animators, lighters, compositors, riggers, motion editors, researchers, educationalists, instructors and experimental animators.

Don't be put off if you have never had much contact with 3D software. Students typically come from a broad range of backgrounds, including photography, fine arts, animation, product design, architecture, fashion design, filmmaking and graphic design. Traditional artists will find their skills are highly beneficial, as are technical skills, too. Knowledge of computer graphics is not essential for entry onto the course, but a passion and enthusiasm for the industry certainly is.

Students are trained in a professional studio environment where industry techniques are delivered by a team of tutors with real-world film and games knowledge and experience. Students learn the fundamentals of computer graphics, which ensures good background knowledge, and most importantly the transferable skills needed to pursue careers in a whole range of specialities.

Each student is given their own workstation and is delivered first-class tuition via a range of lectures, workshops, mentoring and tutorials. Students can expect to come out of the course with practical real-world skills that are indispensable to employers.

The course ends with an impressive finale – a computer animation show. This gives students the chance to really shine and showcase their work to the industry. This is held in one of London's top animation and visual effects companies and is an excellent opportunity to get their foot in the door and possibly secure a future career.

The NCCA has great relationships with some of the top 3D studios across the globe, which offer placement, advice and even jobs for graduates.

To check out samples of student work, go to **www.youtube.com/ncca3danimation**. For more information about this course and the others offered at the NCCA, log on to **http://ncca.bournemouth.ac.uk/**.

Bournemouth University

Course details

Tel +44 (0)1202 524111

Web http://home.bournemouth.ac.uk/

Duration One year full time

Fees UK/EU full-time students: £5,750
International (non-EU) full-time students: £10,000

ENTRY REQUIREMENTS
Equivalent to an Honours degree, though exceptionally well-qualified applicants from other disciplines may be considered at the discretion of the interviewing panel

> "The course's major strengths lie in the diversity of the tutors' and students' art or technical background"

Sofronis Efstathiou Programme leader, MA 3D Computer Animation

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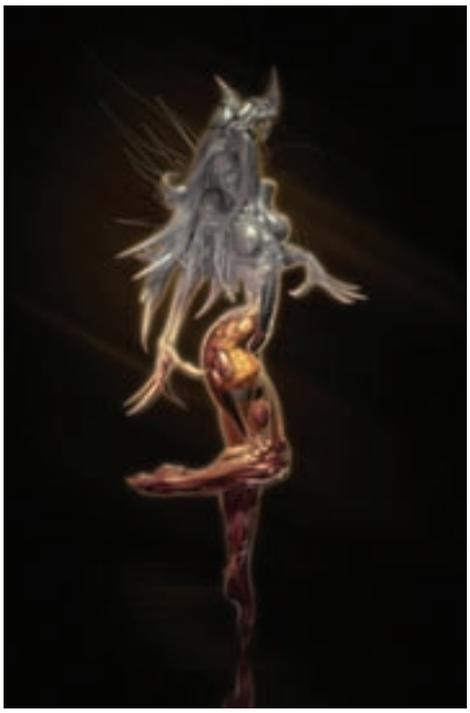
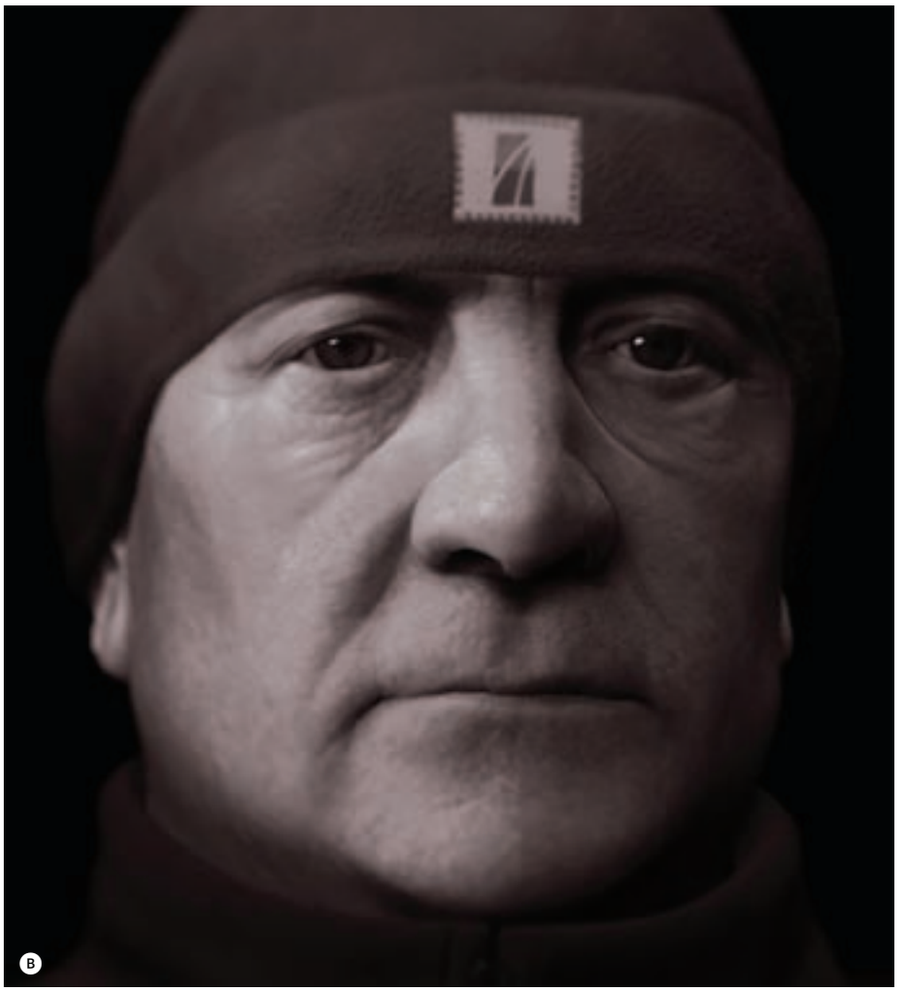


A Fairy Star Child
» **Lawrence Elliot**
Time taken: Ten weeks
Softimage, Photoshop, After Effects
"A 3D model of a tattoo artist's work."



B

C

D

B Still Life
» **Lee Baskerville**
Time taken: One week
Softimage, Photoshop and ZBrush
"A 3D model of my father."

C Jo
» **Liu Dapeng**
Time taken: Ten weeks
Softimage, Photoshop and ZBrush
"An old man, a wheelchair and a fish reconcile their differences."

D A Little Wicked
» **Kevin Meade**
Time taken: 14 weeks
Softimage, Photoshop, After Effects
"A small child likes to play with rats and rockets."

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E The Trouble with Doubles
» **Matt Perrin**
Time taken: 14 weeks
Softimage, Photoshop, After Effects
"A man realises he may have a double while taking a stroll."

F

F Procrastinating Gus
» **Nikki Braine**
Time taken: 14 weeks
Softimage, Photoshop, After Effects
"An animated film telling the story of a man who is desperately trying to think of an idea for work but gets easily distracted."

"I've always loved the Victorian era, so I thought my Masters project would be a good opportunity to investigate this theme more"

Lies Veldeman 2009

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G Alfonso's Delicatessen
» **Ed Olive, Denis Constantinou, Gareth Bell, Nicholas Lee, Antony Magdalinidis, Wuxuan Shi**
Time taken: Four months
Softimage, Photoshop, After Effects
"A short story of a proud deli owner, his greedy son, a thief and a prize-winning ham."

H Innocence
» **Lies Veldeman**
Time taken: 12 weeks
Softimage, ZBrush, Photoshop, Nuke
"I've always loved the Victorian era and the elaborate clothing of that period, so I thought my Masters project would be a good opportunity to investigate this theme more. The whole project was a huge challenge, as it was the first time I used ZBrush for almost my entire model."

I Semblance
» **Ben Thwaites**
Time taken: 14 weeks
Softimage, Photoshop, After Effects
"A study in reflection and contemplation."

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